Panasonic®

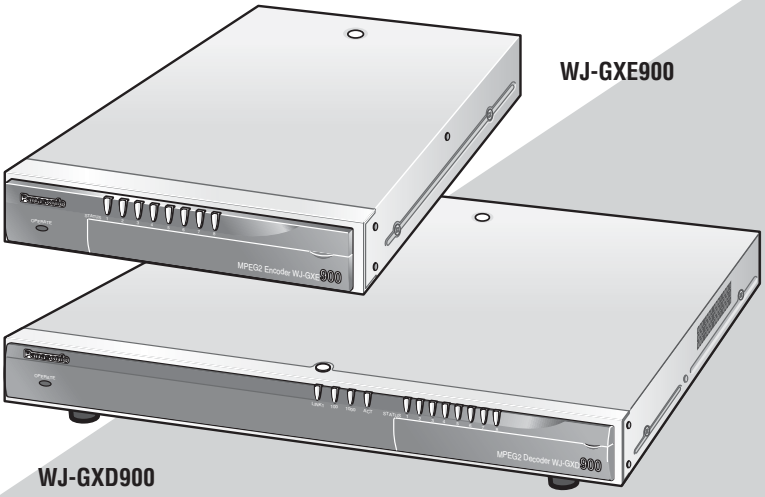
MPEG2 Encoder

Model No. WJ-GXE900

MPEG2 Decoder

Model No. WJ-GXD900

Operating Instructions

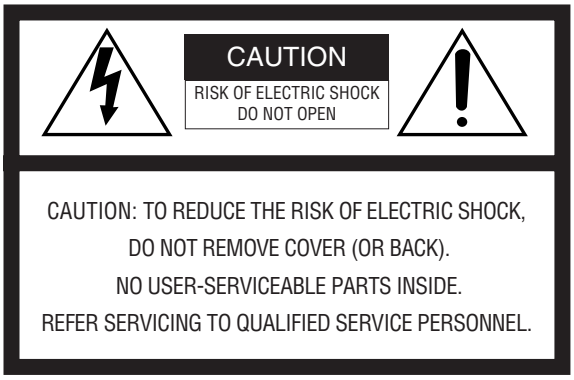


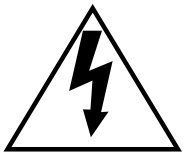
Before attempting to connect or operate this product,
please read these instructions carefully and save this manual for future use.

ENGLISH VERSION

Caution:

Before attempting to connect or operate this product, please read the label on the bottom.


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



SA 1965

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

SA 1966

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Power disconnection. Unit with or without ON-OFF switches has power supplied to the unit whenever the power cord is inserted into the power source; however, the unit is operational only when the ON-OFF switch is in the ON position. Unplug the power cord to disconnect the main power for all unit.

For U.S.A

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.
Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC Caution: To assure continued compliance, (example - use only shielded interface cables when connecting to computer or peripheral devices). Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

The serial number of this product may be found on the bottom of the unit.
You should note the serial number of this unit in the space provided and retain this book as a permanent record of your purchase to aid identification in the event of theft.

Model No. WJ-GXE900/WJ-GXD900

Serial No. _____

WARNING: To prevent fire or electric shock hazard, do not expose this appliance to rain or moisture. The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.

IMPORTANT SAFETY INSTRUCTIONS

1) Read these instructions.

2) Keep these instructions.

3) Heed all warnings.

4) Follow all instructions.

5) Do not use this apparatus near water.

6) Clean only with dry cloth.

7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

8) Do not use near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles and the points where they exit from the apparatus.

11) Only use attachments/accessories specified by the manufacturer.

12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-overs.

13) Unplug this apparatus during lightning storms or when unused for long periods of time.

14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

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FEATURES

The MPEG2 Image Delivery System delivers image data as streaming data to a network such as a LAN. This system consists of the encoder that converts an analog video signal (NTSC) to the digital data (MPEG2), and the decoder that converts the digital data (MPEG2) to the analog video signal (NTSC).

- This system features the MPEG2 compression scheme. It is possible to send and receive motion pictures at 30 fps, up to 9 Mbps.
- This system can be connected with a network that supports TCP/IP and UDP/IP protocols.
- It is possible to send and receive image, audio and other packets through the Ethernet (MPEG2 encoder: 100BASE-TX, MPEG2 decoder: 100BASE-TX, 1000BASE-T).
- It is possible to control cameras and adjust the bit rate when an alarm is detected by an alarm device (a sensor) connected to the ALARM IN connector on the rear panel of the MPEG2 encoder.
- Up to 4 cameras can be connected to the MPEG2 encoder. It is possible to operate cameras (such as panning, tilting zooming and focusing) remotely.
- The MPEG2 encoder loops through an analog video signal connected to the VIDEO IN connectors to the VIDEO OUT connectors. It is possible to record images by connecting recording devices such as a digital disk recorder (optional cable WV-CA64 is required.).
- It is possible to display 4 camera images in a single screen (quad picture) by connecting a monitor to the QUAD VIDEO OUT connector on the rear panel of the MPEG2 decoder. Pictures of up to 4 cameras connected to the VIDEO OUT 1 - 4 connectors can be observed on a monitor.
- The RS-485 data port on the rear panel of the MPEG2 encoder is the data port for the serial data. It is possible to send and receive the serial data between the MPEG2 encoder and a network using this port. The data part of the received UDP/IP packet will be converted to the serial data, or the serial data received from the RS-485 connector will be converted to the UDP/IP packet and will be sent to the network.

PRECAUTIONS

- **Refer all work related to the installation of these products to qualified service personnel or system installers.**
- **Do not operate the appliances beyond their specified temperature, humidity, or power source ratings.**

  Use the appliance at temperatures within –10 °C - + 50 °C (14 °F - 122 °F) and humidity below 90 %. The input power source for this appliance is 120 V AC 60 Hz.
- **Handle the appliance with care.**

  Do not strike or shake, as this may damage the appliance.
- **Do not strike or give a strong shock to the unit.**

  It may cause damage or allow water to enter the unit.
- **Built-in backup battery**

  Before the first use, charge the built-in backup battery by turning on the power for 48 hours or more. If it is not charged enough, in the case where the power goes down, the internal clock may keep bad time or the operative condition may be different to that before the electric power failure.
  The built-in battery life is approximately 5 years. Ask the shop where you purchased the unit when replacement of the battery is required.
- **Cooling Fan**

  The cooling fan is perishable. It will need to be replaced it after around 30 000 hours of operation. Replacement costs of the cooling fan are not covered by the warranty even if it needs to be done within the warranty period. Consult your dealer for servicing.
- **Cleaning**

  Turn the power off when cleaning the unit. Otherwise it may cause injuries.
- **Do not use strong or abrasive detergents when cleaning the appliance body.**

  Use a dry cloth to clean the appliance when it is dirty. When the dirt is hard to remove, use a mild detergent and wipe gently.
- **Network with surge protector**

  Connect the encoder and the decoder to a network with front-end protection circuitry (equivalent to ITU-T recommendation, series K) against electrical surges and lightning strikes. The encoder and the decoder may be damaged if connected to a network without front-end protection circuitry against electrical surges and lightning.
- **Grounding**

  Connect the wire from the SIGNAL GND terminal to earth ground.
  Otherwise, it may cause oscillation or may damage the encoder and the decoder.
- **Indication label**

  Refer to the indication label placed on the bottom of the product as to the indications of equipment classification and power source, etc.
- **Avoid placing receptacles that contain liquids such as water near the appliance.**

  If liquid falls over the product, it may cause fire or electric shock.
- **We recommend that you make a note of your settings and save them. This will help you when required to change the system configuration, or when unexpected trouble or failure occurs.**

PRECAUTIONS

SYSTEM REQUIREMENTS

Setting up and operating the encoder and the decoder with a web browser, and execution of the "Panasonic IP Setup" software are possible with PCs meeting the system requirements described below.

OS	Microsoft® Windows® 98 Second Edition Microsoft® Windows® 2000 Professional Service Pack 3 Microsoft® Windows® Millennium Edition Microsoft® Windows® XP Microsoft® Windows NT® Workstation 4.0 Service Pack 6a
Computer	PC/AT Compatible
CPU	Intel® Pentium® II (300 MHz) or higher
Memory	128 MB or more
Monitor	24-bit True color or better Required to support XGA or higher picture resolution
Network Interface	More than100Mbps Ethernet board must be installed
Compatible Network Protocols	TCP/IP, UDP, HTTP, FTP, ARP, BOOTP
CD-ROM Drive	Required to install the "Panasonic IP Setup" software and browse the operating instructions (pdf file) on the CD-ROM.
Browser	Internet Explorer 5.5, 5.5SP2, 6.0, 6.0SP1
Acrobat® Reader	Required to browse the operating instructions on the CD-ROM. If Acrobat® Reader is not installed on the PC, download the latest version of Acrobat® Reader from the Adobe Systems Incorporated web site and install it.

LIMITATION OF LIABILITY

IN NO EVENT SHALL MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD. BE LIABLE TO ANY PARTY OR ANY PERSON, EXCEPT FOR REPLACEMENT OR REASONABLE MAINTENANCE OF THE PRODUCT, FOR THE CASES, INCLUDING BUT NOT LIMITED TO BELOW:

(1) ANY DAMAGE AND LOSS, INCLUDING WITHOUT LIMITATION, DIRECT OR INDIRECT, SPECIAL, CONSEQUENTIAL OR EXEMPLARY, ARISING OUT OF OR RELATING TO THE PRODUCT;
(2) PERSONAL INJURY OR ANY DAMAGE CAUSED BY INAPPROPRIATE USE OR NEGLIGENT OPERATION OF THE USER;
(3) UNAUTHORIZED DISASSEMBLE, REPAIR OR MODIFICATION OF THE PRODUCT BY THE USER;
(4) ANY PROBLEM, CONSEQUENTIAL INCONVENIENCE, OR LOSS OR DAMAGE, ARISING OUT OF THE SYSTEM COMBINED BY THE DEVICES OF THIRD PARTY.

TRADEMARKS AND REGISTERED TRADEMARKS

- Microsoft, Windows and Windows NT are registered trademarks of Microsoft Corporation in the U.S. and/or other countries.
- Intel and Pentium are trademarks of Intel Corporation.
- Ethernet is a registered trademark of Xerox Corporation.
- Adobe, Adobe logos, and Acrobat are registered trademarks of Adobe Systems Incorporated in the U.S. and/ or other countries.
- Dolby Digital is a registered trademark of Dolby Laboratories.
- Other names of companies and products contained in these operating instructions may be trademarks or registered trademarks of their respective owners.
- Distributing, copying, disassembling, reverse compiling, reverse engineering, and also exporting in violation of export laws of the software provided with this product, is expressly prohibited.

DOCUMENT CONVENTION

These operating instructions use the following convention when describing the uses and operations.

- Encoder : MPEG2 encoder
- Decoder : MPEG2 decoder
- MPEG2 Image Delivery System: Generic name of the MPEG2 encoder and the MPEG2 decoder

CAUTIONS ABOUT THE NETWORK ENVIRONMENT

This unit sends a multicast stream (9.2 Mbps max. x 4 streams).

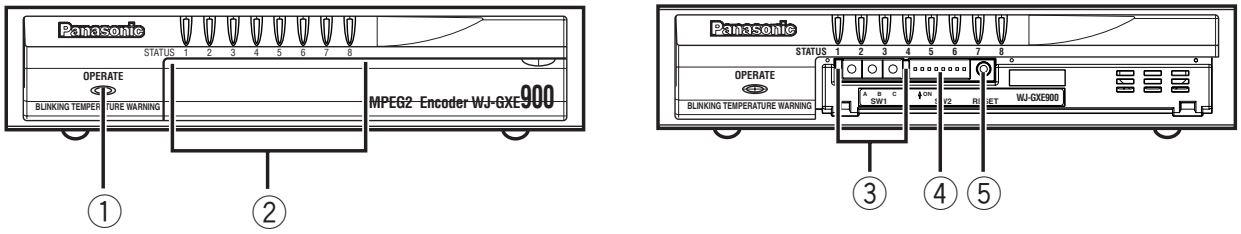
Obtain confirmation from the network administrator that this bandwidth usage will not cause a network failure.

Operation of this system is executed by sending CGI scripts from a web browser.
It will be difficult to operate this system from a web browser in the following cases.

- If a firewall (including software) or a proxy server exists in a network, CGI scripts will not operate this system. In this case, ask a network administrator to pass data for the ports used by this system.
- Depending on settings of a web browser, CGI scripts will not work correctly. Refer to the operating instructions or "Help" topics for the web browser.

MAJOR OPERATING CONTROLS AND THEIR FUNCTIONS

MPEG2 Encoder Front Panel



① **Power Indicator (OPERATE)**
This indicator lights up when the power of the encoder is on.
When the temperature inside the encoder becomes remarkably high, this indicator will start blinking.

It will take around 2 minutes and 45 seconds to start up the encoder after turning the power on.
During start up, the STATUS indicators (STATUS 1 - 5) will light up in order. When the STATUS 5 indicator lights up, it is possible to operate the encoder.
Each STATUS indicator will light, blink or go off according to the status of this encoder.

② **Status Indicators (STATUS 1 - 8)**
STATUS 1 - 4: These indicators display the status of VIDEO 1 - 4.
Each of the STATUS 1 - 4 indicators displays the status of the VIDEO IN 1 - 4 connectors respectively. The indicators will light up when this encoder is sending streaming data after encoding a video signal from the respective VIDEO IN connector. The indicators will go off when the encoder is not sending streaming data (stops encoding) even if a video signal is supplied to the VIDEO IN connector. The respective indicator of the VIDEO IN connector with no video signal will blink.
STATUS 5 (RUN): This indicator lights up when the encoder is operable.
STATUS 6 (LINK2): This indicator lights up when the initialization of the software has been completed correctly, and the encoder can be connected to a network.
STATUS 7 (RCV): This indicator lights up when the encoder is receiving packets (camera control, serial data, etc.) except for video and audio packets.
STATUS 8 (XMT): This indicator lights up when the encoder is sending packets (serial data, etc.) except for video and audio packets.

③ **Rotary Switch (SW1 A, B, C)**
Use these switches to set the IDs of devices when the Main CPU exists.
(4096 combinations for IDs can be made from 000 to FFF.)
The default setting is "000".

Note: The Main CPU mode is the advanced function for integrated control. Use these switches with the default settings for normal use.

④ **Dip Switches 1 - 8 (SW2)**
The settings of the these switches will be valid when the encoder has started up.
Note: When this switch is set to ON, the selected actions will be performed each time on the encoder power is turned on.

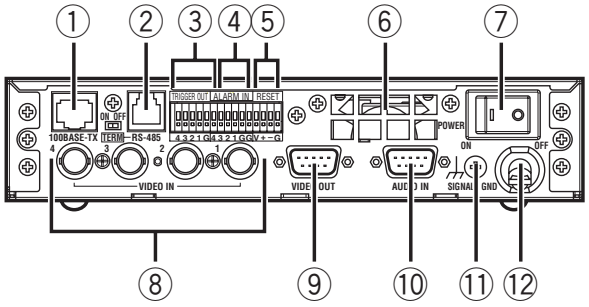
DIP1: Normally, select OFF. When ON is selected, the firmware, as the start up program (loaded at the factory), starts up. The value of the settings will not be deleted.
DIP2: When ON is selected, the IP address and all the current settings will return to the default settings.
DIP3: When ON is selected, the initialization of the IP address will start. (The initialization of the IP address starts only when the DIP4 is set to OFF.)
DIP4: When ON is selected, DHCP will be available.
DIP5: Normally, select OFF. To change to the Main CPU mode, select ON.

Note: The Main CPU mode is the advanced function for integrated control. Use these switches with the default settings for normal use.

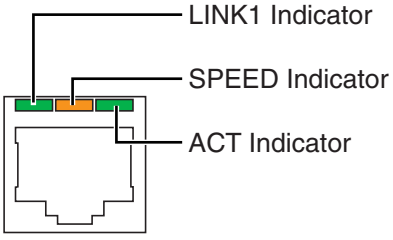
DIP6: Reserved
DIP7: When ON is selected, the HTTP server will stop its service.
DIP8: Normally, select OFF.
To select the IPL (Initial Program Loader) mode for start up, set this switch to ON. (Only for testing)
To select the normal mode, set this switch to OFF.

⑤ **Reset Button (RESET)**
Pressing this button restarts the encoder without shutting down the power.
Press this button only when the encoder becomes unstable.

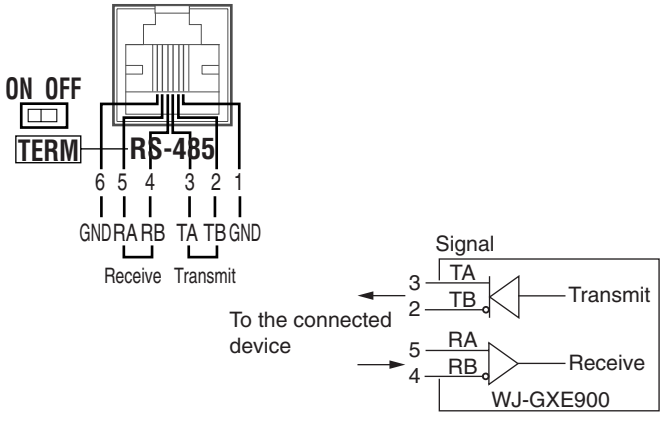
MPEG2 Encoder Rear Panel



① **Ethernet Port (100BASE -TX) (RJ-45)**
Connect an Ethernet cable to connect to a network. Use a category 5 cable (100BASE-TX).
LINK1 Indicator: This indicator lights up when the encoder is linked to a network through this port.
SPEED Indicator: This indicator lights up when connection (100BASE-TX) is established.
ACT Indicator: This indicator lights up when receiving or sending data through this port.



② **RS-485 Port (RS-485) (RJ-11)**
Connect a device with RS-485 interface. Termination can be set by the TERM switch (TERM).



③ **Trigger Output Terminal (TRIGGER OUT 1 - 4, G (GND))**
The trigger output signal (Open collector output, 25 V DC, 50 mA max.) will be supplied from this terminal using the contact output controlling CGI commands. (Refer to the operating instructions (pdf file) included on the supplied CD-ROM about the contact output controlling CGI commands.)

④ **Alarm Input Terminal (ALARM IN 1 - 4, G (GND))**
Connect an external device such as a sensor. (Open collector or dry contact, low active less than 0.2 V, pulse width more than100 ms, voltage endurance 5 V DC max.)

⑤ **Reset Input Terminal (RESET)**
Use this terminal to restart the encoder.

⑥ **Cooling Fan**
There is a built-in cooling fan inside of the encoder. Do not block the ventilation openings.
Note: The cooling fan is perishable. It will need to be replaced it after around 30 000 hours of operation. Replacement costs of the cooling fan are not covered by the warranty even if it needs to be done within the warranty period. Consult your dealer for servicing.

⑦ **POWER Switch**
Press this switch to turn the power on or off. When the power is on, the OPERATE indicator on the front panel will be lit.

⑧ **Video Input Connectors (VIDEO IN 1 - 4) (1 V[p-p]/75Ω, NTSC composite video signal, BNC)**
Up to 4 cameras can be connected.

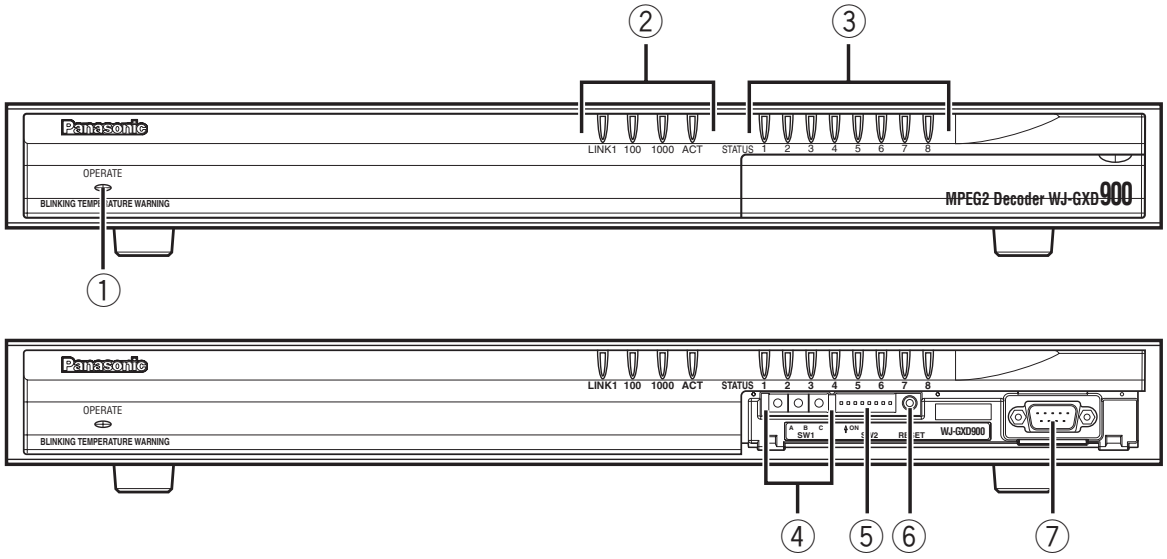
⑨ **Video Output Connector (VIDEO OUT) (1 V[p-p]/75Ω, NTSC composite video signal, 9-pin D-sub)**
Video signal will be looped through from the VIDEO IN 1 - 4 respectively. Up to 4 monitors can be connected to monitor pictures from the cameras connected to the VIDEO IN 1 - 4. To connect monitors, a cable (WV-CA64, not supplied) is required.

⑩ **Audio Input Connector (AUDIO IN 1 - 4) (–10 dB, 9-pin D-sub)**
Up to 4 audio devices can be connected. To connect audio devices, a cable (WV-CA64, not supplied) is required.

⑪ **Signal Ground Terminal (SIGNAL GND)**

⑫ **Power Cord**
Connect to an AC outlet (120V AC, 60 Hz).

MPEG2 Decoder Front Panel



① **Power Indicator (OPERATE)**
This indicator lights up when the power of the decoder is on.
When the temperature inside the decoder becomes remarkably high, this indicator will start blinking.

It will take around 2 minutes to start up the decoder after turning the power on.
During start up, the STATUS indicators (STATUS 1 - 5) will light up in order. When the STATUS 5 indicator lights up, it is possible to operate the decoder.
Each STATUS indicator will light, blink or go off according to the status of this decoder.

② **Network Status Indicators (LINK1, 100, 1000, ACT)**
LINK1 Indicator: This indicator lights up when the connection with the network is established.
100 Indicator: This indicator lights up during the 100BASE-TX connection.
1000 Indicator: This indicator lights up during the 1000BASE-T connection.
ACT Indicator: This indicator lights up when the decoder is receiving or sending packets.

③ **Status Indicators (STATUS 1 - 4)**
STATUS 1 - 4: These indicators display the status of VIDEO OUT 1 - 4.
Each of the STATUS 1 - 4 indicators displays the status of the VIDEO OUT 1 - 4 connectors respectively. The respective STATUS indicator

will light up when decoding streaming data to video signals. The indicators will blink when the decoder is not receiving streaming data. The indicators will go off when decoding has stopped.

STATUS 5 (RUN): This indicator lights up when the decoder is operable.

STATUS 6 (LINK2): This indicator lights up when the initialization of the software has been completed correctly, and the decoder can be connected to a network.

STATUS 7 (RCV): This indicator lights up when the decoder is receiving packets (switching stream, etc.) except for video and audio packets.

STATUS 8 (XMT): This indicator lights up when the decoder is sending packets (Confirming reception, etc) except for video and audio packets.

④ **Rotary Switch (SW1 A, B, C)**

Use these switches to set the IDs of devices when the Main CPU exists.
(4096 combinations for IDs can be made from 000 to FFF.)
The default setting is "000".

Note: The Main CPU mode is the advanced function for integrated control. Use these switches with the default settings for normal use.

⑤ **Dip Switches 1 - 8 (SW2)**

The settings of the these switches will be valid when the decoder has started up.

Note: When this switch is set to ON, the selected actions will be performed each time you turn the power of the decoder on.

DIP1: Normally, select OFF. When ON is selected, the firmware, as the start up program (loaded at the factory), starts up. The value of the settings will not be deleted.

DIP2: When ON is selected, the IP address and all the current settings will return to the default settings.

DIP3: When ON is selected, the initialization of the IP address will start. (The initialization of the IP address starts only when the DIP4 is set to OFF.)

DIP4: When ON is selected, DHCP will be available.

DIP5: Normally, select OFF. To change to the Main CPU mode, select ON.

Note: The Main CPU mode is the advanced function for integrated control. Use these switches with the default settings for normal use.

DIP6: Reserved

DIP7: When ON is selected, the HTTP server will stop its service.

DIP8: Normally, select OFF.
To select the IPL (Initial Program Loader) mode for start up, set this switch to ON. (Only for testing)
To select the normal mode, set this switch to OFF.

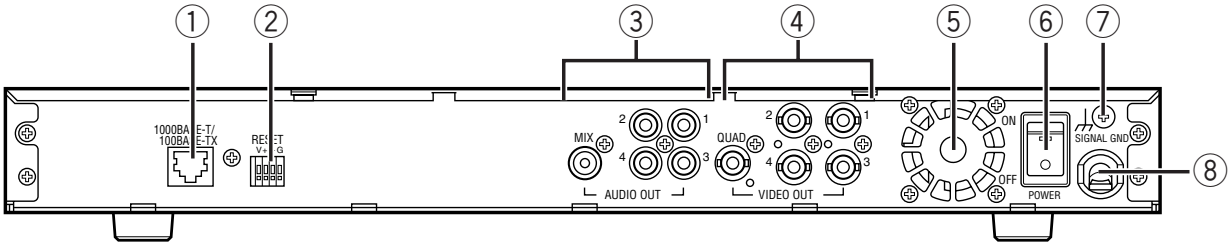
⑥ **Reset Button (RESET)**

Pressing this button restarts the decoder without shutting down the power.
Press this button only when the decoder becomes unstable.

⑦ **RS-232C (9-pin D-sub)**

Not used for operation. Use this port for maintenance.

MPEG2 Decoder Rear Panel



① **Ethernet Port (100BASE-TX/1000BASE-T) (RJ-45)**
Connect with a network device such as router or hub using an Ethernet cable. Depending on the transmission speed between a device and the decoder, use the proper cable as suggested below.
When the transmission speed is 1000BASE-T
Enhanced category 5 (STP (Shielded Twisted Pair)) cable.
When the transmission speed is 100BASE-TX
Category 5 cable.

② **Reset Terminal (RESET)**
Use this terminal to restart the decoder.

③ **Audio Output Connector (AUDIO OUT 1 - 4, MIX) (–10 dBv, pin-jack RCA)**
AUDIO OUT 1 - 4: Up to 4 audio devices such as amplifiers or speakers can be connected. The CGI command is used to turn ON/OFF the audio output.
MIX: All audio from AUDIO 1 - 4 will be mixed and supplied from this connector.

④ **Video Output Connector (VIDEO OUT 1 - 4, QUAD) (1 V[p-p]/75 Ω, NTSC composite video signal, BNC)**
VIDEO OUT 1 - 4: Up to 4 video display devices such as monitors can be connected. Perform the settings on the settings page or use the CGI commands to select the display method.
QUAD: Connect a video display device such as a monitor. 4-images (VIDEO OUT 1 - 4) can be displayed simultaneously in a monitor.

⑤ **Cooling Fan**
There is a built-in cooling fan inside of the decoder. Do not block the ventilation openings.
Note: The cooling fan is perishable. It will need to be replaced it after around 30 000 hours of operation. Replacement costs of the cooling fan are not covered by the warranty even if it needs to be done within the warranty period. Consult your dealer for servicing.

⑥ **POWER Switch**
Press this switch to turn the power on or off. When the power is on, the OPERATE indicator on the front panel will be lit.

⑦ **Signal Ground Terminal (SIGNAL GND)**

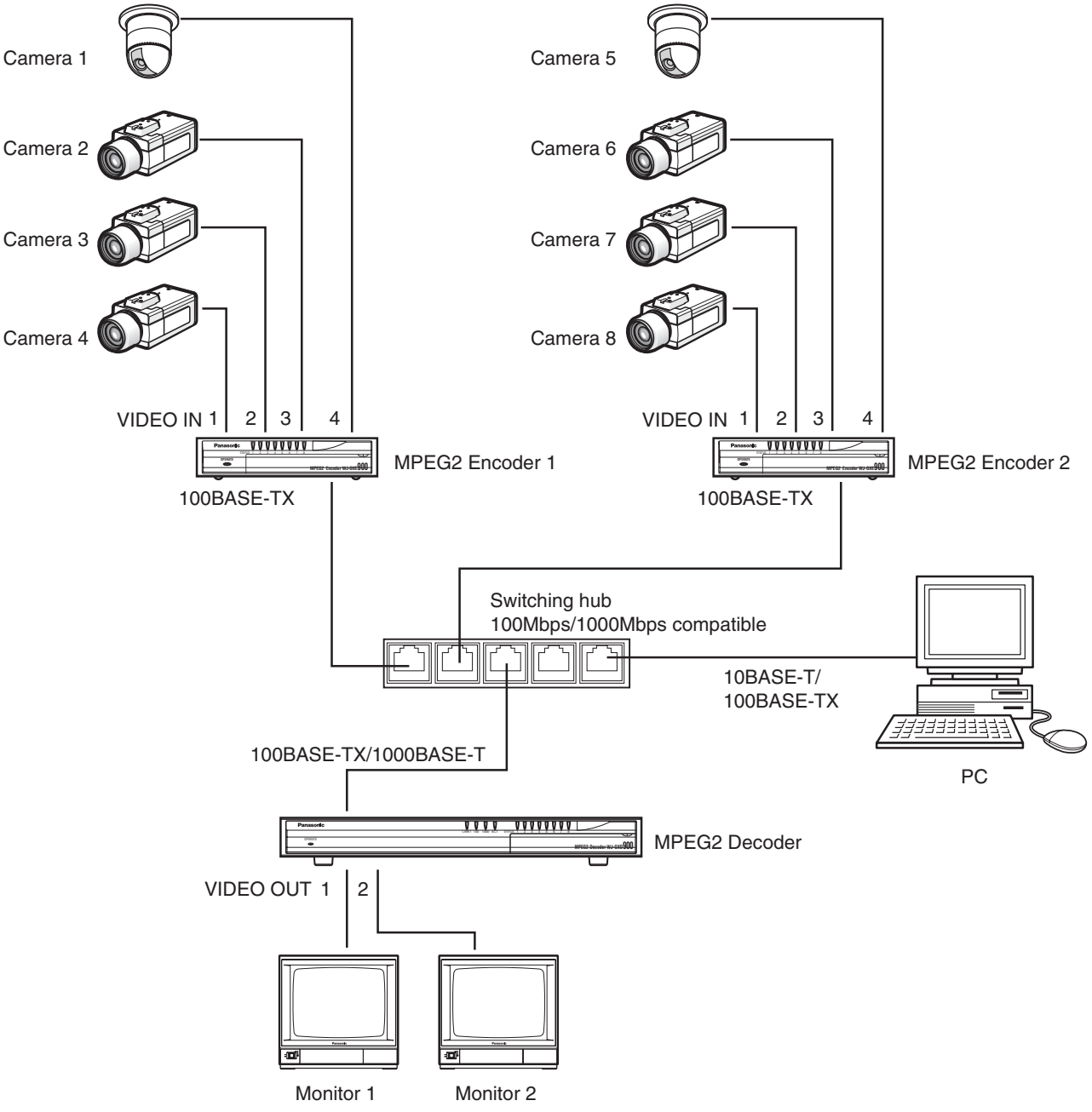
⑧ **Power Cord**
Connect to an AC outlet (120 V AC, 60 Hz).

Multicast Transmission

The multicast transmission will be suitable for the following systems.
• When the number of cameras is more than the number of monitors in a system, and switching streaming video to be displayed on the monitors using the decoder
• When monitoring pictures of a camera on two or more monitors

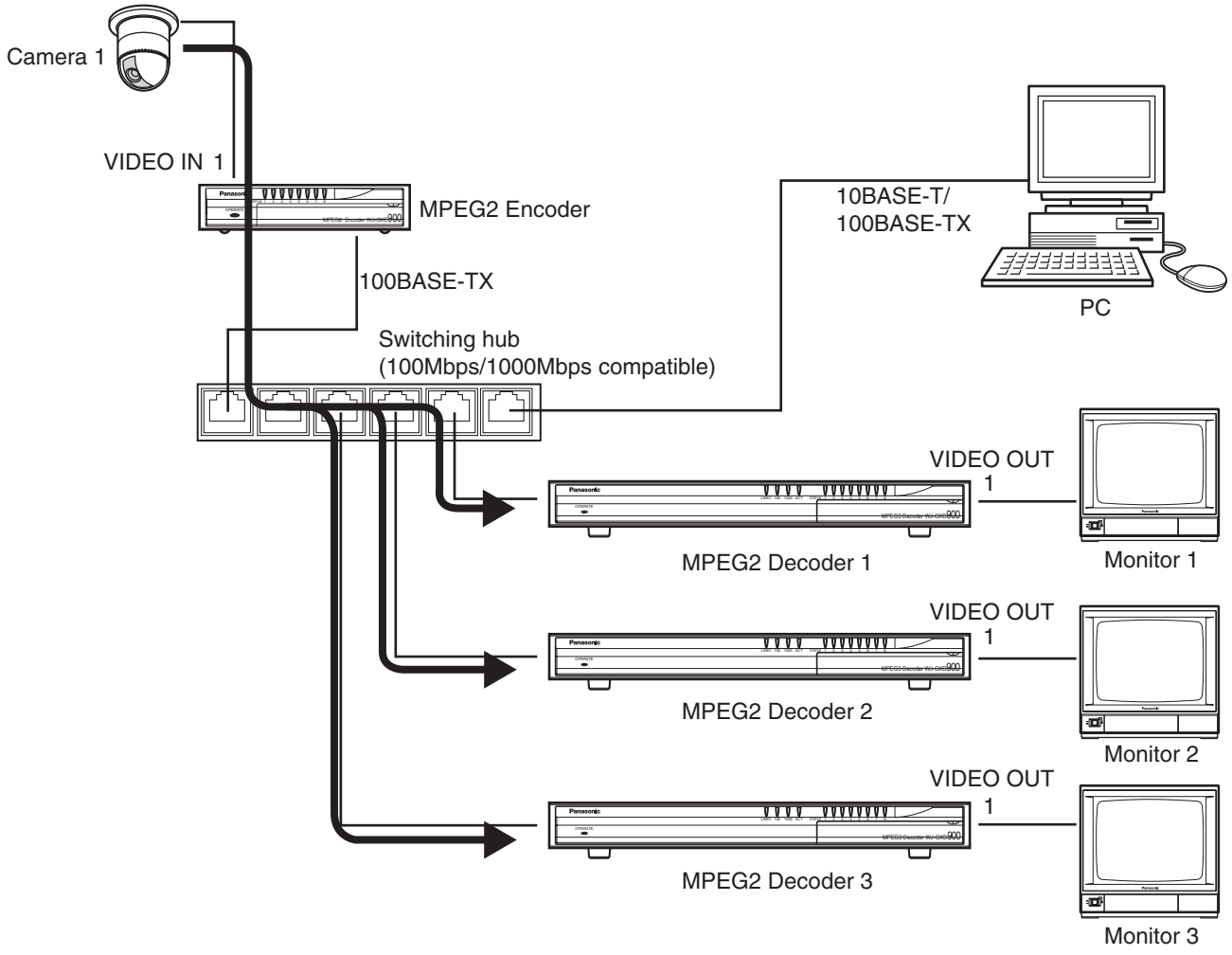
When the number of cameras is more than number of monitors in the system, and when designating camera channels to be displayed on monitors using a PC

Use the CGI command to switch streaming video to be displayed on the monitors.
Send the CGI command to the decoder and set the receiving IP addresses of the camera whose pictures are to be displayed on the monitors. Refer to "SWITCHING STREAMING VIDEO" section of "HOW TO USE THE CGI COMMANDS" on page 90.



When monitoring pictures of a camera with two or more monitors

Use the CGI command to designate pictures of the camera to be displayed on the monitors.
Send the CGI command to each decoder and set the receiving IP address of the camera whose pictures are to be displayed on the monitors. Refer to the "SWITCHING STREAMING VIDEO" section of "HOW TO USE THE CGI COMMANDS" on page 90.

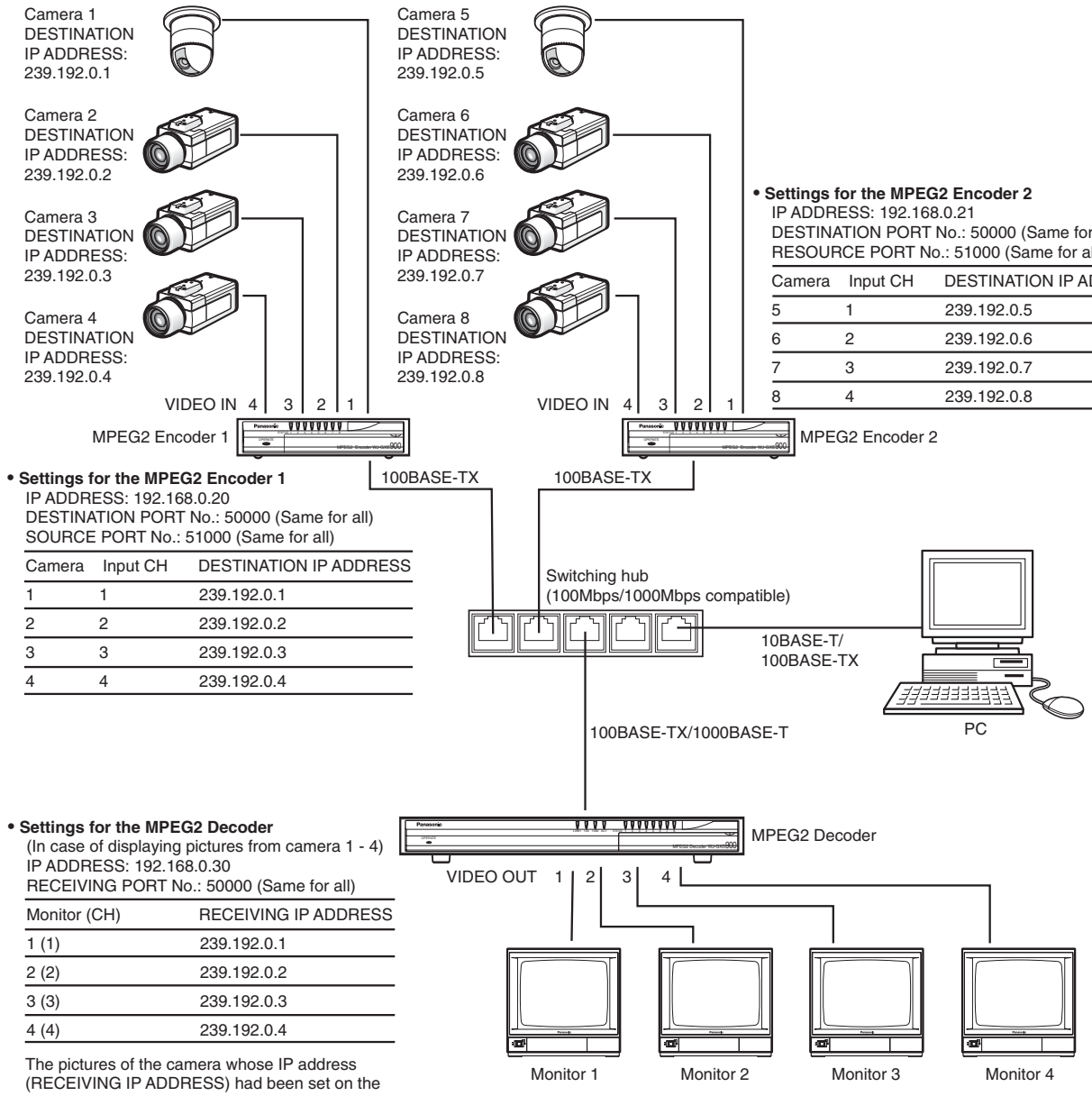


Refer to the following pages for further information related to the system above.
Encoder: NETWORK page (page 56), VIDEO page (page 44)
Decoder: NETWORK page (page 73), VIDEO page (page 69)
It may be required to change the network settings of a PC to switch streaming video.

System Example (Switching streaming video)

This is a system example with 8 cameras and 4 monitors, and switching streaming video using a PC.
Refer to the "SWITCHING STREAMING VIDEO" section of "HOW TO USE THE CGI COMMANDS" on page 90 about the CGI command to switch streaming video.

Note: All the "DESTINATION PORT No." of each encoder should be the same. The IP addresses to be assigned for "DESTINATION IP ADDRESS" should be different according to the respective VIDEO IN connectors.



• Settings for the MPEG2 Encoder 2
IP ADDRESS: 192.168.0.21
DESTINATION PORT No.: 50000 (Same for all)
RESOURCE PORT No.: 51000 (Same for all)

Camera	Input CH	DESTINATION IP ADDRESS
5	1	239.192.0.5
6	2	239.192.0.6
7	3	239.192.0.7
8	4	239.192.0.8

• Settings for the MPEG2 Encoder 1
IP ADDRESS: 192.168.0.20
DESTINATION PORT No.: 50000 (Same for all)
SOURCE PORT No.: 51000 (Same for all)

Camera	Input CH	DESTINATION IP ADDRESS
1	1	239.192.0.1
2	2	239.192.0.2
3	3	239.192.0.3
4	4	239.192.0.4

• Settings for the MPEG2 Decoder
(In case of displaying pictures from camera 1 - 4)
IP ADDRESS: 192.168.0.30
RECEIVING PORT No.: 50000 (Same for all)

Monitor (CH)	RECEIVING IP ADDRESS
1 (1)	239.192.0.1
2 (2)	239.192.0.2
3 (3)	239.192.0.3
4 (4)	239.192.0.4

The pictures of the camera whose IP address (RECEIVING IP ADDRESS) had been set on the VIDEO page of the decoder will be displayed on the monitor when the decoder is started up.

Refer to the following pages for further information related to the system above.
Encoder: NETWORK page (refer to page 56), VIDEO page (refer to page 44)
Decoder: NETWORK page (refer to page 73), VIDEO page (refer to page 69)
It may be required to change the network settings of a PC to switch streaming video.

Operation Example (Switching streaming video)

These are examples to operate the systems introduced on the previous pages.

• Switching currently monitored streaming video to another streaming video

Use the following CGI commands.

```
http:///(IP address of the decoder to be controlled)/control4?decode=start&ch=xx&address=aaa.aaa.aaa.aaa:ppppp
```

control4?: Definition to control streaming video (required)

decode =start: Identifier to start decoding (required)

ch=xx: Number of the VIDEO OUT connector of the decoder to be controlled (xx:01 - 04)

address=aaa.aaa.aaa.aaa:ppppp
aaa.aaa.aaa.aaa: IP address of the camera ("RECEIVING IP ADDRESS" (0.0.0.0 - 255.255.255.255))
ppppp: RECEIVING PORT No. (1024 - 65535)

Example: To display the picture of the camera 5 on the monitor 1

```
http://192.168.0.30/control4?decode=start&ch=01&address=239.192.0.5:50000
```

• Controlling camera

```
http:///(IP address of the encoder of which the camera to be controlled is connected)/cgi-bin/camctrl.cgi?CHSEL=x
```

camctrl.cgi?: Definition to control the camera

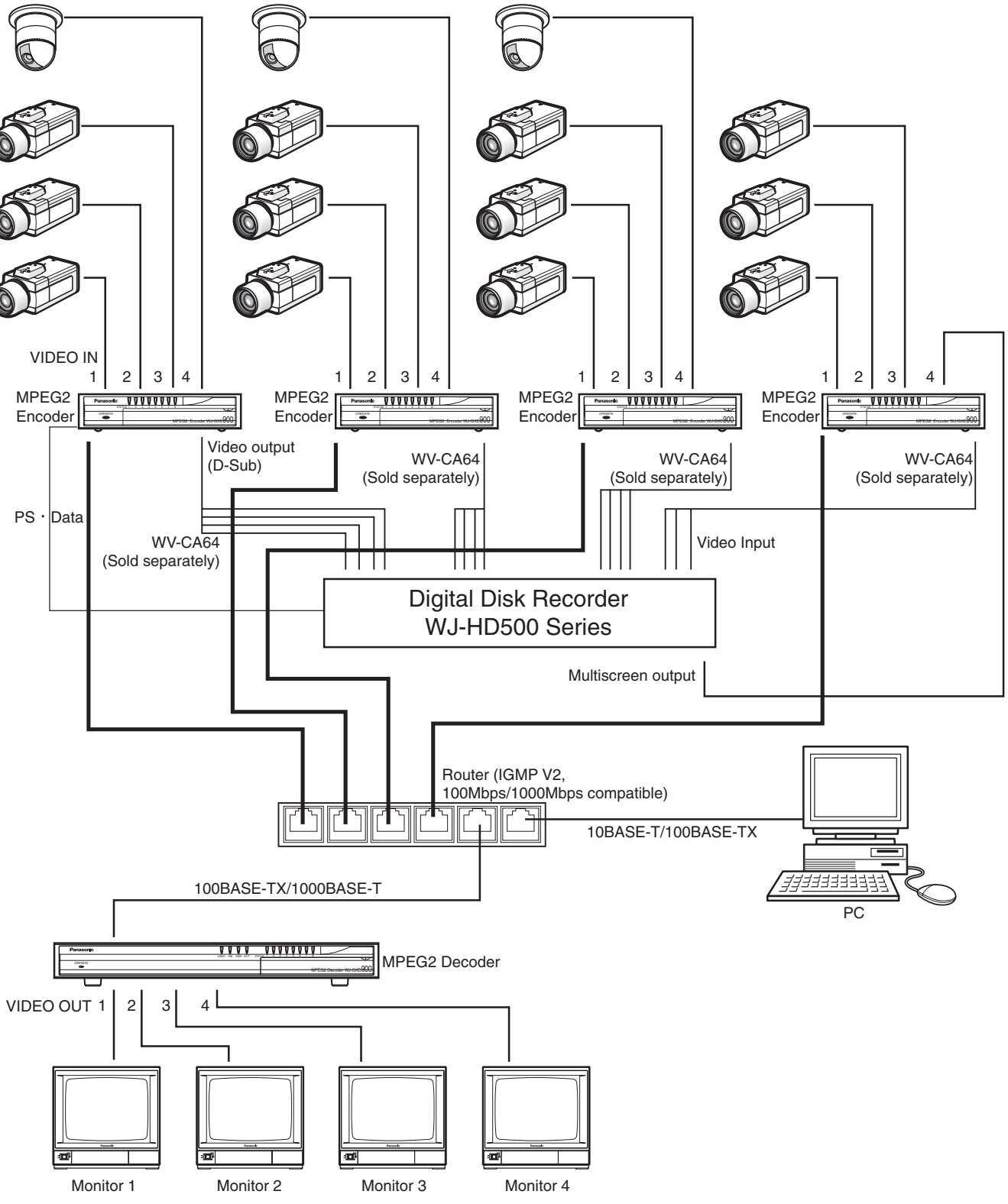
CHSEL=x: Designate the number of the VIDEO IN connector (channel) to which the camera to be controlled is connected.
Enter a number from 1 to 4 in the "x" part. (Refer to page 86.)
Enter "&" after "CHSEL&x" and enter the camera control command following to entered "&".

Example: Controlling the camera connected to 1ch of the encoder 1.

```
http://192.168.0.20/cgi-bin/camctrl.cgi?CHSEL=1&PRESET=1
```

System example (Recording streaming video)

This is a system example to control the digital disk recorder (WJ-HD500) from a PC.



Setting Example (Recording streaming video)

The digital disk recorder can be controlled by using the PS•Data (through the RS-485 data port). Perform the settings for the RS-485 data port on the RS-485 DATA PORT page as shown below. The settings on the VIDEO page and the NETWORK page are also required according to the user's environment.

RS-485 DATA PORT SETUP

Items	Parameters
BAUD RATE	9 600 bps
DATA	8 bit
STOP BIT	1 bit
PARITY	NONE
WAITING DATA SIZE TO SEND PACKET	200
WAITING TIMER TO SEND PACKET	100 ms

NETWORK PORT SETUP

Items	Parameters
DESTINATION SETUP	DESTINATION IP ADDRESS IN RECEIVING PACKET
DESTINATION PORT No.	52000

Note: The parameters of "BAUD RATE", "DATA", "STOP BIT" and "PARITY" should be the same values as the set parameters of the digital disk recorder.

Operation Example (Recording streaming video)

To control the digital disk recorder from a PC, perform the settings of "DESTINATION IP ADDRESS" and "DESTINATION PORT No." as shown below. The controlling command is sent in the form of a UDP packet. (Refer to "Receiving and Sending Serial Data (RS-485)" on page 23.

DESTINATION IP ADDRESS: IP address of the encoder
DESTINATION PORT No.: 52000

The digital disk recorder is controlled by the PS•Data commands. It is necessary to convert the PS•Data commands to the UDP packet through a PC to send to the digital disk recorder.
For further information about the PS•Data, refer to your dealer.

Note: It may be necessary to change the network settings of a PC to switch streaming video.

Unicast Transmission

The unicast transmission will be suitable for the following system.

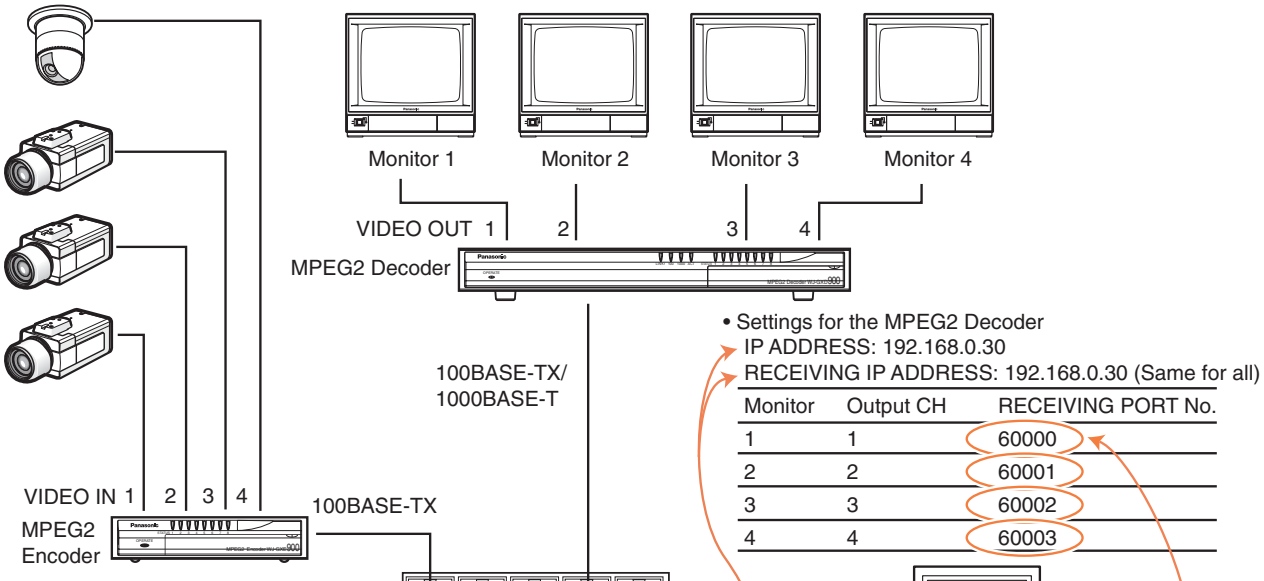
- When it is necessary to monitor pictures from a specific camera on a specific monitor

System Example

When using the unicast transmission, the number of cameras and monitors should be same. The unicast transmission is useful in preventing from heavy traffic in the network, not only for this system but also the other systems.
For the unicast transmission, perform the settings of "DESTINATION IP ADDRESS" and "DESTINATION PORT No." on the VIDEO page of the encoder.
Then, it is also necessary to perform the settings of the VIDEO page of the decoder as shown below.

DESTINATION IP ADDRESS: The same IP address entered for "DESTINATION IP ADDRESS" on the VIDEO page of the encoder

DESTINATION PORT No.: The same port number entered for "DESTINATION PORT No." on the VIDEO page of the encoder



• Settings for the MPEG2 Decoder
IP ADDRESS: 192.168.0.30
RECEIVING IP ADDRESS: 192.168.0.30 (Same for all)

Monitor	Output CH	RECEIVING PORT No.
1	1	60000
2	2	60001
3	3	60002
4	4	60003

• Settings for the MPEG2 Encoder
IP ADDRESS: 192.168.0.20
SOURCE PORT No.: 51000 (Same for all)

Camera	Input CH	DESTINATION IP ADDRESS	DESTINATION PORT No.
1	1	192.168.0.30	60000
2	2	192.168.0.30	60001
3	3	192.168.0.30	60002
4	4	192.168.0.30	60003

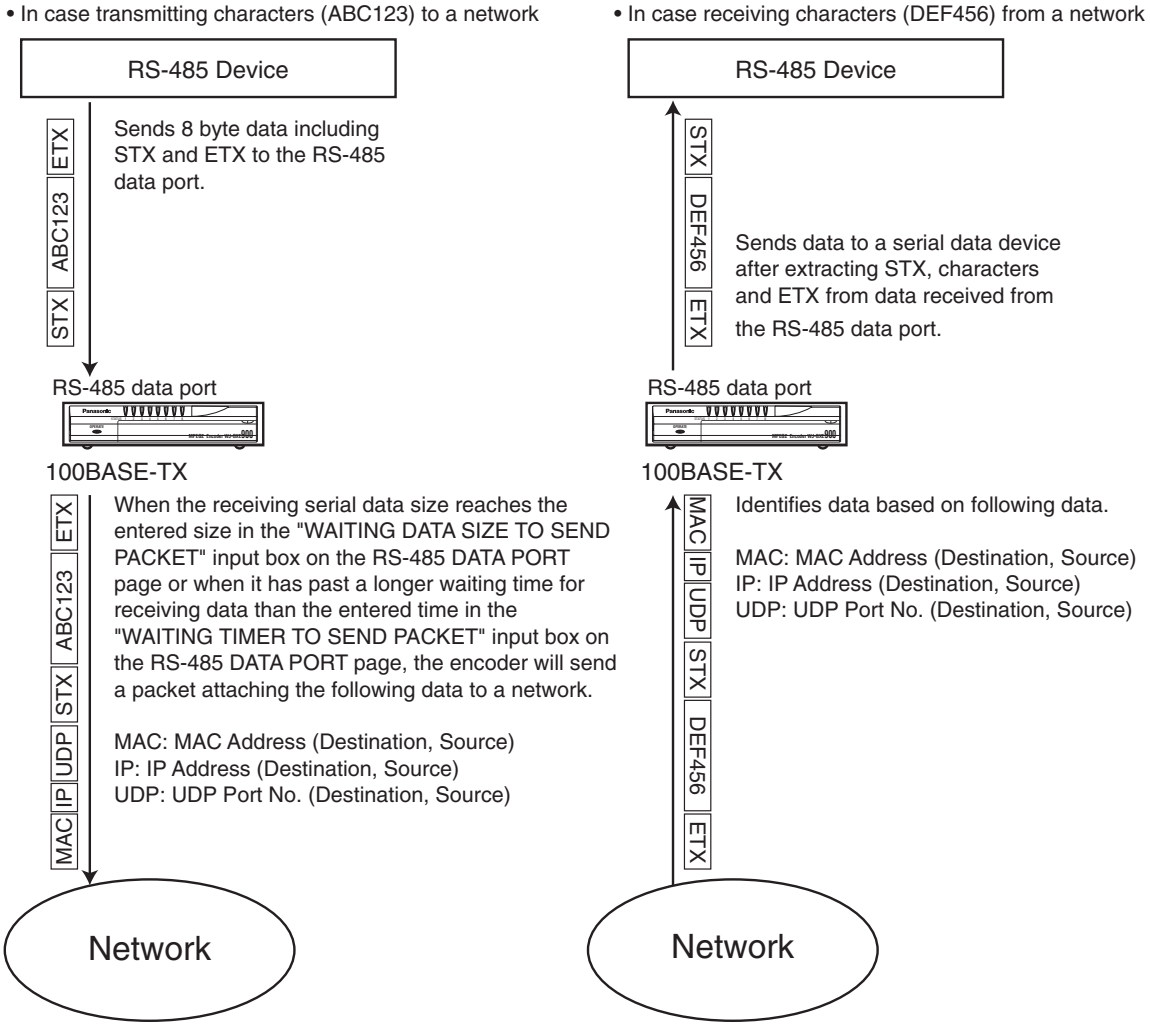
Data transmission and reception will be one-to-one by entering same IP address to "RECEIVING IP ADDRESS" on the setting page of the encoder and to "DESTINATION IP ADDRESS" on the setting page of the decoder.

Note: When the decoder is restarted while receiving streaming video by the unicast transmission, it may take more than 10 minutes for the decoder to display streaming video.
To restart the decoder while receiving streaming video by the unicast transmission, it is recommended to do the following:

1. Click the [STOP] button on the CONTROL/STATE page of the encoder or use the "stop encoding" CGI command to stop encoding.
2. Restart the decoder.
3. After the decoder becomes operable (after the STATUS 5 indicator of the decoder lights up), click the [START] button on the CONTROL/STATE page of the encoder, or use the "start encoding" CGI command.

Receiving and Sending Serial Data (RS-485)

The encoder receives and sends serial data (duplex) as shown in the illustration below.


• In case transmitting characters (ABC123) to a network
RS-485 Device
STX
ABC123
ETX
Sends 8 byte data including STX and ETX to the RS-485 data port.
RS-485 data port
100BASE-TX
MAC
IP
UDP
STX
ABC123
ETX
When the receiving serial data size reaches the entered size in the "WAITING DATA SIZE TO SEND PACKET" input box on the RS-485 DATA PORT page or when it has past a longer waiting time for receiving data than the entered time in the "WAITING TIMER TO SEND PACKET" input box on the RS-485 DATA PORT page, the encoder will send a packet attaching the following data to a network.
MAC: MAC Address (Destination, Source)
IP: IP Address (Destination, Source)
UDP: UDP Port No. (Destination, Source)
Network
• In case receiving characters (DEF456) from a network
RS-485 Device
STX
DEF456
ETX
Sends data to a serial data device after extracting STX, characters and ETX from data received from the RS-485 data port.
RS-485 data port
100BASE-TX
MAC
IP
UDP
STX
DEF456
ETX
Identifies data based on following data.
MAC: MAC Address (Destination, Source)
IP: IP Address (Destination, Source)
UDP: UDP Port No. (Destination, Source)
Network

Required Settings for RS-485

Perform the following settings to receive and send serial data.

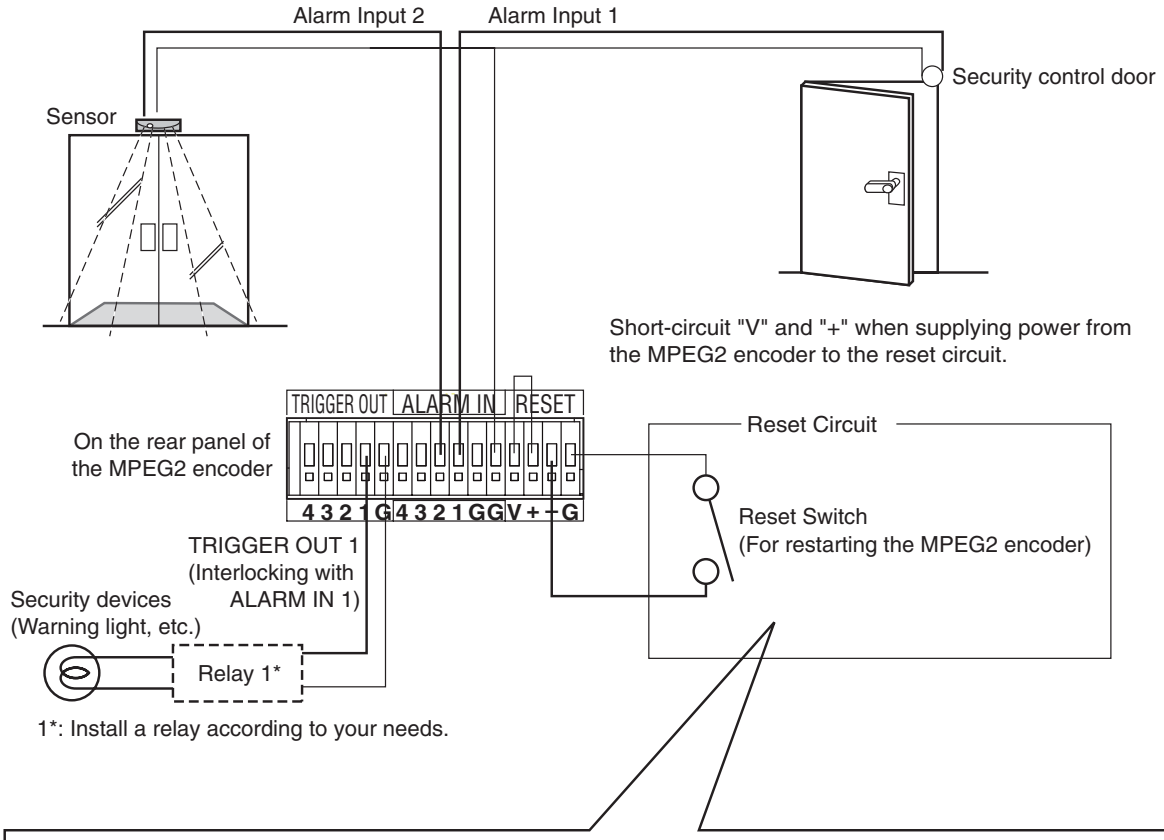
- Enter the desired size of the packet to be sent in the "WAITING DATA SIZE TO SEND PACKET (1 - 1024 byte)" input box on the RS-485 DATA PORT page.
  The packet will be sent when its size reaches the entered size.
- Enter the desired waiting time to send in the "WAITING TIMER TO SEND PACKET (10 - 1000 ms)" input box on the RS-485 DATA PORT. The packet will be sent when the entered time has passed.
- Enter the desired port number to be used for receiving UDP packets from the network in the "RECEIVING PORT No." input box on the RS-485 DATA PORT page.

When the receiving serial data size reaches the entered size in the "WAITING DATA SIZE TO SEND PACKET" input box on the RS-485 DATA PORT page or when it has reached a waiting time for receiving data longer than the entered time in the "WAITING TIMER TO SEND PACKET" input box on the RS-485 DATA PORT page, the encoder will attach MAC, IP and UDP to the packet and send it to the network.
The received packet from the network will be converted to serial data by deleting MAC, IP and UDP, and then it will be sent to an RS-485 device from the RS-485 data port of the encoder.

Alarm Function and a Reset Switch

System Example

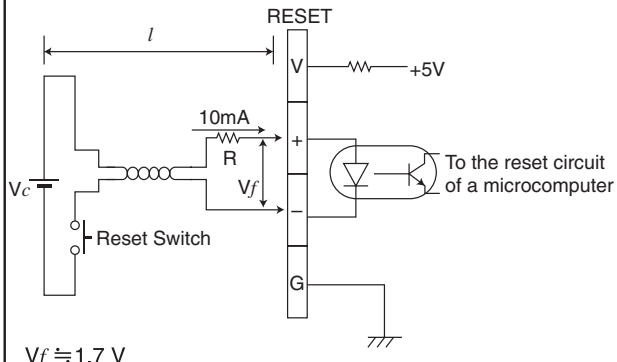
Refer to the following system example when connecting a sensor or a security control door with a reset switch.


Alarm Input 2
Alarm Input 1
Security control door
Sensor
Short-circuit "V" and "+" when supplying power from the MPEG2 encoder to the reset circuit.
TRIGGER OUT
ALARM IN
RESET
On the rear panel of the MPEG2 encoder
4 3 2 1 G 4 3 2 1 G G V + – G
Reset Circuit
Reset Switch
(For restarting the MPEG2 encoder)
TRIGGER OUT 1
(Interlocking with ALARM IN 1)
Security devices
(Warning light, etc.)
Relay 1*
1*: Install a relay according to your needs.

About the Reset Circuit

When isolating the power source (procured locally)

It is suitable if the reset circuit is installed in a distance from the MPEG2 encoder and it is under the influence of noise.



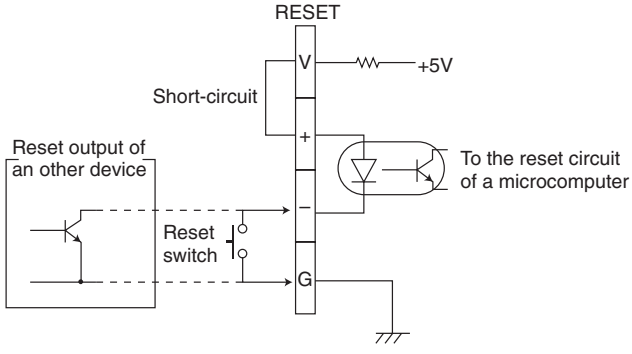
$Vf \fallingdotseq 1.7$ V

$R \fallingdotseq \frac{Vc - 1.7}{10 \times 10^{-3}}$

Example: In case Vc=12 V
R=1.03 kΩ≒1 kΩ

When supplying the power from the MPEG2 encoder

It is suitable if the reset circuit is installed near the MPEG2 encoder such as in the same rack and the connection distance between them is short.



- Open collector or non-voltage make contact
- Low Active (less than 0.2 V)
- Voltage endurance (more than 10 V DC)

ALARM IN

• Alarms

The encoder can receive the following alarms.

- DRY CONTACT (Contact alarm)
- CAMERA SITE ALARM (Overlapped alarm output signal with camera video signal supplied from a camera when the video motion detection function of a camera is activated, or when an alarm device such as a sensor connected to the alarm input connector of the camera is activated.)
- VIDEO LOSS ALARM (Alarm output signal supplied from a camera when a camera is malfunctioning, the power of the camera is off, when a wire is broken, if there is connection trouble, etc.)

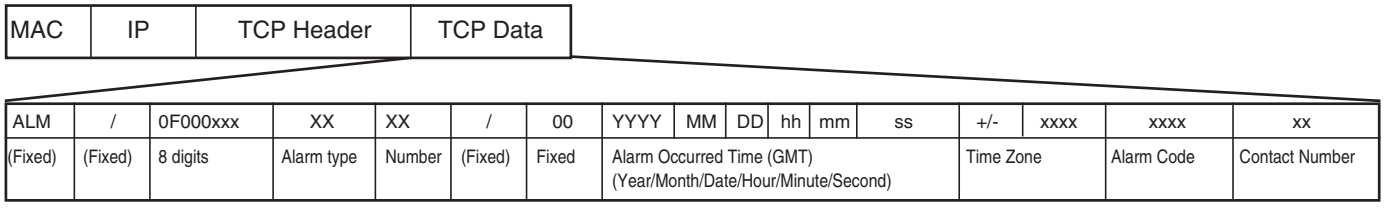
• Action of the encoder when an alarm is received

By setting the ALARM page, you can set the encoder to activate the following operations simultaneously when the above alarms occurred.

- Displaying the selected preset position of the camera
- Changing the bit rate of video and audio
- Sending an alarm notification command to the designated IP address with the designated port number (IP address: Port No.).

• Alarm notification command

The format of the alarm notification command is as below.
The alarm notification command is sent in the form of a TCP/IP protocol packet.
Perform the settings of destination (IP address and port number) to which the alarm notification command is to be sent in the "ALARM NOTIFICATION IP ADDRESS" input box on the ALARM page.



ALM	/	0F000xxx	XX	XX	/	00	YYYY	MM	DD	hh	mm	ss	+/-	xxxx	xxxx	xx
(Fixed)	(Fixed)	8 digits	Alarm type	Number	(Fixed)	Fixed	Alarm Occurred Time (GMT) (Year/Month/Date/Hour/Minute/Second)						Time Zone		Alarm Code	Contact Number

Details of the "TCP/IP Data" part		
ALM	Fixed	Alarm Identifier
/	Fixed	
0F000xxx	8 digits	Identifier number of the encoder ("xxx" part is the set value for the rotary switch on the front panel of the encoder)
XX	Alarm type	20: Camera Site Alarm, Video Loss Alarm 40: Contact Alarm
XX	Number	Numbers in order of camera site alarm or video loss alarm occurrence 00: 1, In case of contact alarm occurrence, fixed to 00. 01: 2 02: 3 03: 4
/	Fixed	
00	Fixed	
YYYY		4 digits: Alarm Occurred Time (Year)
MM		2 digits: Alarm Occurred Time (Month)
DD		2 digits: Alarm Occurred Time (Date)

(continues)

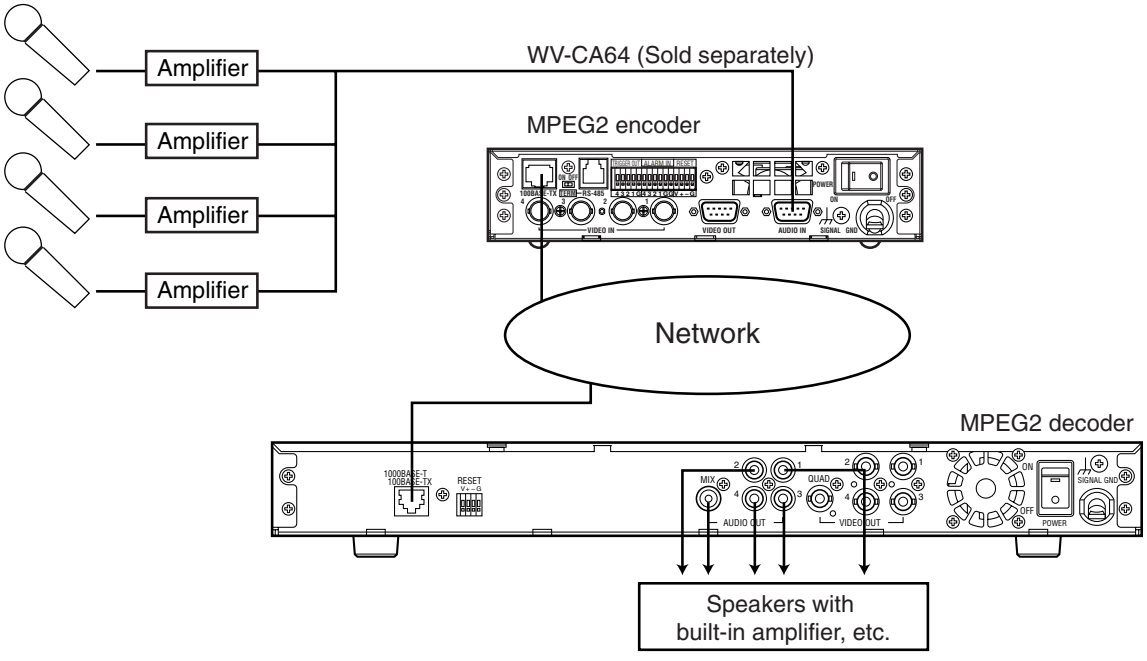
(continued)		
hh		2 digits: Alarm Occurred Time (Hour), 24-hour display
mm		2 digits: Alarm Occurred Time (Minute)
ss		2 digits: Alarm Occurred Time (Second)
+/-	Time zone	
xxxx	Time zone	2 digits for hour, 2 digits for minute
xxxx	Alarm code	4000: Camera site
		4001: Video loss
		4002: Contact alarm (Open)
		4003: Contact alarm (Close)
xx	Contact number	Valid only for contact alarm occurrence
		00: 1
		01: 2
		02: 3
		03: 4
:	Fixed	Final character

• Alarm Reset

There are 2 ways to reset alarm (reset by the CGI command and setting the reset timer on the menu). To reset the contact alarm, there are 3 ways (reset by the CGI command, setting the reset timer on the menu and manual reset (alarm off timing)).
When all alarms are reset, the bit rate of video and audio returns to the normal rate.
When two or more alarms occurred, the bit rate of the latest alarm will be applied.

AUDIO IN/AUDIO OUT

To connect microphones and amplifiers to the AUDIO IN connectors of the encoder, optional cables (WV-CA64) are required. Refer to the following system example when receiving and sending audio.



INSTALLATIONS

Warning
The installation should be made by qualified service personnel or system installers.

Places to avoid

- Places exposed to sunlight directly or near a source of heat such as a radiator
- Very dirty and dusty places
- Places subject to having strong vibrations
- Near magnetic field sources such as near a television or speakers
- Near high-voltage cables such as a power cable
- Near noise sources such as fluorescent lamps
- Places where condensation forms easily
- Humid places
- Places where temperature changes remarkably
- Places where are not level
- Steamy and oily places such as kitchens

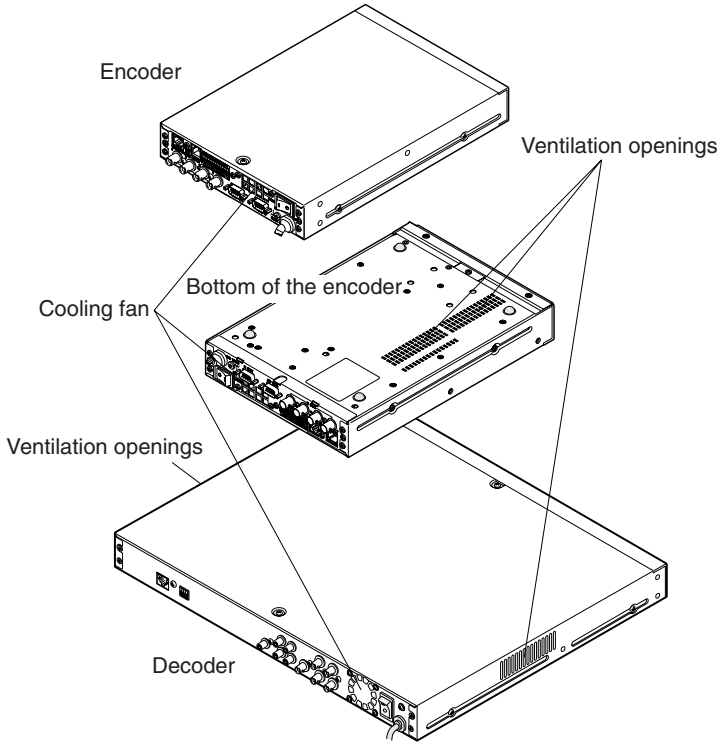
About mounting

- Do not block the ventilation openings (on the bottom of the encoder and the both sides of the decoder) in the cover to prevent the appliances from overheating. Clear a space of more than 5 cm from both sides, the top, and the rear of the appliances.
- Keep the temperature in the rack below +45 °C (113 °F).
- Install the appliances in the rack as low as possible. Refer to the "Rack Mounting" section on page 28 for further information.

Heat Dissipation

Refer to the following to prevent fire and malfunction of the appliances.

- Do not block the ventilation openings (on the bottom of the encoder and the both sides of the decoder) in the cover to prevent the appliances from overheating. Maintain the appliances periodically to prevent dust from blocking openings.
- The cooling fan is perishable. It will need to be replaced it after around 30 000 hours of operation. Replacement costs of the cooling fan are not covered by the warranty even if it needs to be done within the warranty period. Consult your dealer for servicing.

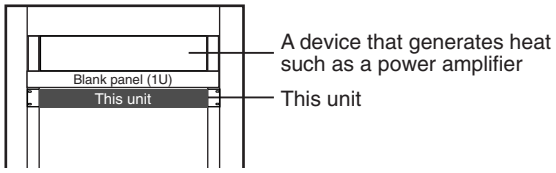


INSTALLATIONS

Rack Mounting

The encoder and the decoder can be installed in the following racks.

- Racks equivalent to EIA standard: Type 19" EIA standard (depth: more than 450 mm (17-11/16"))

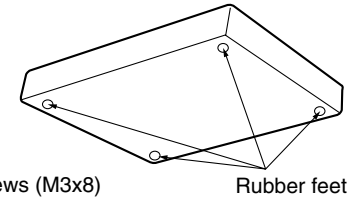


Important

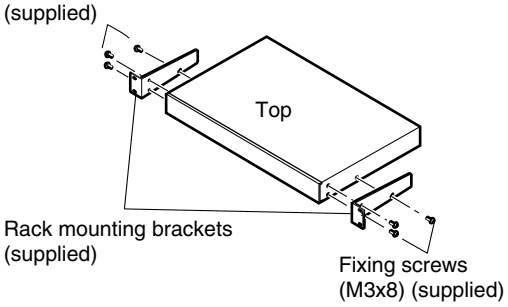
- Do not install the encoder and the decoder above an appliance which generates heat such a power amplifier. When installing the encoder and the decoder below a heat-generating appliance, install them below the appliance with a space equivalent to about 1 unit separating them.
- Keep the temperature in the rack below +45 °C (113 °F).
- When the rack is in a place subject to vibrations, fix the rear of the encoder and the decoder with reinforcing brackets (not included)
- Fix the provided tapping screws into screw holes of the rack that have never been threaded before. When screwing a tapping screw into a threaded screw hole, thread ridge of the screw hole may be damaged.

Mounting the decoder

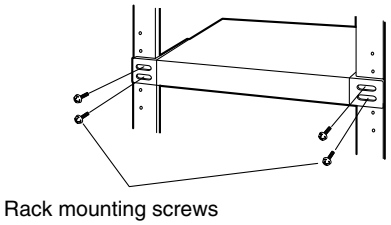
1. Remove the four rubber feet by removing the four screws from the bottom of the decoder.



2. Place the supplied rack mounting brackets on both sides of the decoder and tighten with the four supplied screws (M3x8).

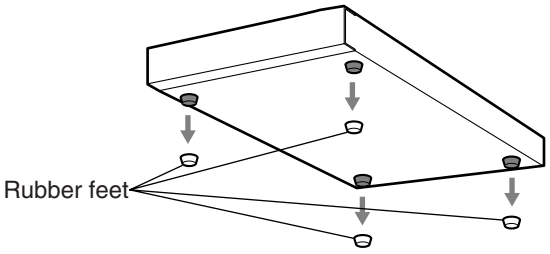


3. Install the decoder with the rack mounting brackets in the rack by using four screws (not included).

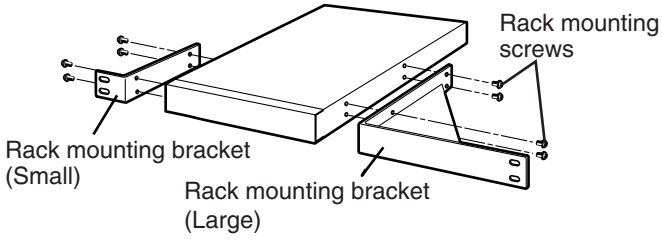


Mounting the encoder

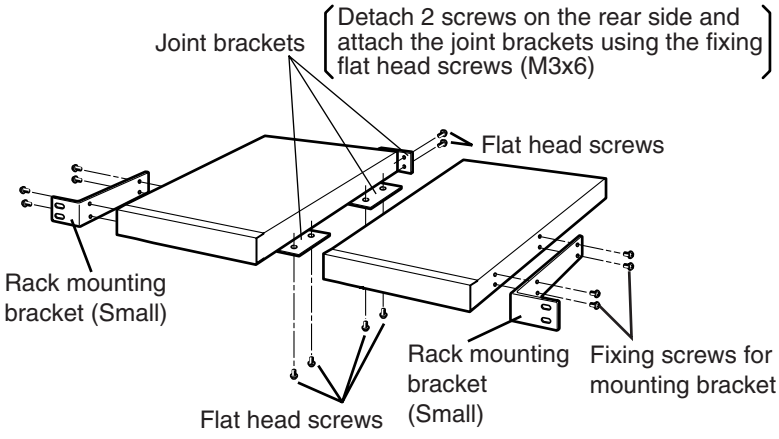
1. Remove the four rubber feet by removing the four screws from the bottom of the encoder.



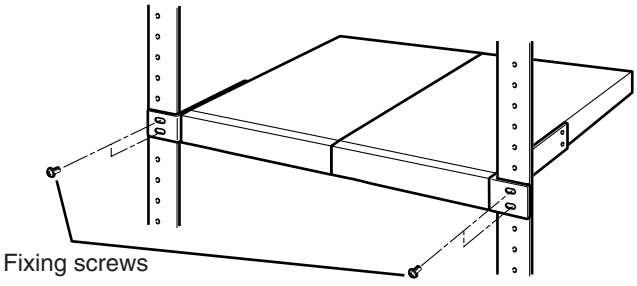
2. Place the rack mounting brackets (sold separately, see below for details) on both sides of the encoder and tighten with the four screws supplied to the rack mounting brackets.
   When installing an encoder: WQ-LMK44/1-S
   - Rack mounting brackets (Large) x1
   - Rack mounting brackets (Small) x1
   - Fixing screws for the rack mounting brackets (M3x8) x6
   - Fixing tapping screws for rack mounting (nominal diameter: 5) x4



   When installing two encoders: WQ-LMK44/2-S
   - Rack mounting brackets (Small) x2
   - Joint bracket x3
   - Fixing screws for the rack mounting brackets (M3x8) x6
   - Flat head fixing screws for the rack mounting brackets (M3x6) x12
   - Fixing tapping screws for rack mounting (nominal diameter: 5) x4


Joint brackets
Detach 2 screws on the rear side and attach the joint brackets using the fixing flat head screws (M3x6)
Flat head screws
Rack mounting bracket (Small)
Rack mounting bracket (Small)
Fixing screws for mounting bracket
Flat head screws

3. Install the encoder with the rack mounting brackets in the rack by using four screws (not included).
   Cautions:
   - Do not block the ventilation opening or slots in the cover to prevent the appliance from overheating.
     Always keep the temperature in the rack below +45 °C (113 °F).
   - Secure the rear of the appliance to the rack by using additional mounting brackets (not included) if the rack is subject to vibration.

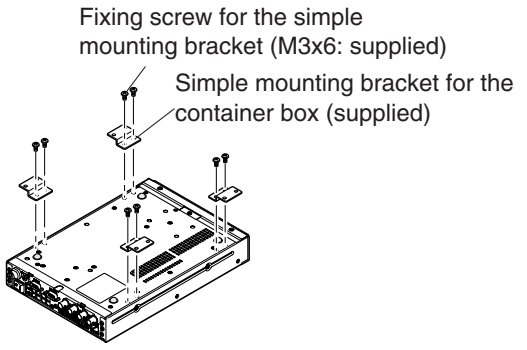


Installing in a container box (Only for the Encoder)

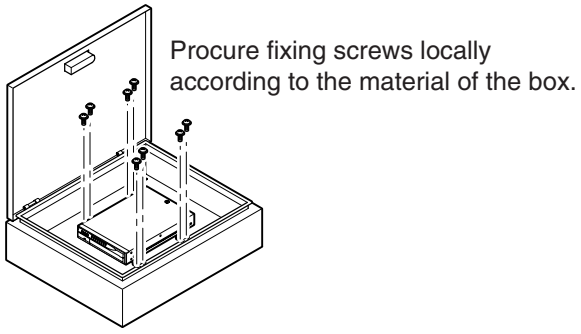
The encoder can be installed in a container box.
When required to install the encoder in a container box, install as below.

How to install

1. Place the supplied simple mounting brackets with the supplied fixing screws on the bottom of the encoder.



2. Fix the encoder in the container box by fixing the attached simple mounting brackets to the box with fixing screws. (Procure fixing screws locally to fix the encoder in the container box according to the material of the box.)



Warning when installing the encoder in a container box

To reduce the risk of fire or malfunction, observe the following instructions.

1. Ensure the following when installing the encoder in the box.
   - Do not block the ventilation openings at the rear, on the bottom of the encoder with cables or clothes etc.
   - Keep more than 10 cm distance between the rear panel of the encoder and the internal side surface of the box.
   - Keep more than 1 cm between the bottom of the encoder and the internal bottom surface of the box.
2. Keep the temperature inside the box between –5 °C and +45 °C (23 °F and 113 °F) and the humidity less than 90% while the encoder is in operation. (Recommended temperature is less than 40 °C (104 °F).
   If temperature and humidity are beyond the value above, it may affect parts inside of the encoder and cause malfunction.
   In case of installing the container box outdoor, consider influences on temperature and humidity from seasonal change, sunlight and weather.
   According to needs, fabricate sun shields, cooling devices, heating devices, drain holes, etc.
3. Do not install the box in places where discharging of corrosive liquids and gases occurs such as locations close to seawater, hot springs, exhaust gas, etc.
   This may cause corrosion of internal parts inside of the encoder.
4. In case of installing the box in place exposed to rain, use the waterproof box equivalent to the IP45 or better. Waterproof also around the cable hole and the cables as sufficiently as possible.
5. Depending on the material of the box, it may cause noise as the result of the vibration of the cooling fan of the encoder with the box.
6. Make enough space around the rear panel and fix the cables firmly but so as not to bend the cables or place too much force on the connectors.
7. Do not install the box in places such as in a car which is subject to having strong vibrations

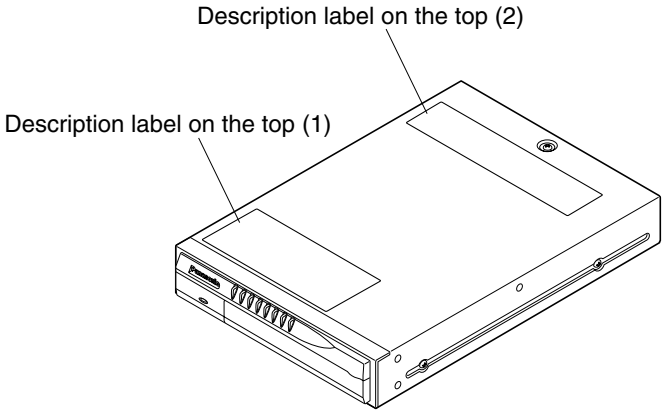
Description Labels

The description labels and the code labels are provided as standard accessories of the encoder and the decoder respectively.
Attach each label on the top of the appliances as described below according to needs.

Labels for Encoder

- **Description label (1)**
  There are descriptions about the "SW2" and the "STATUS" indicators (STATUS 1 - 8) on this label. Attach this label to the top front side of the encoder (shown in the illustration on the right), on the container box or on the rack.

- **Description label (2)**
  There are descriptions about the layout of the connectors on the rear panel and the indicators of the Ethernet port (100BASE-TX) on this label. Attach this label to the top rear side of the encoder (shown in the illustration on the right), on the container box or on the rack.

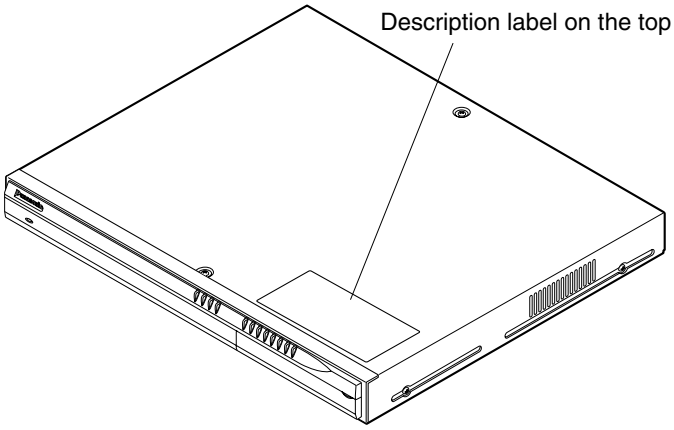


- **Code label**
  The MAC address of the appliance is described on this label. Keep this label by attaching it to the provided CD-ROM case, etc. The MAC address is also described on the label attached inside the front panel cover.

Labels for Decoder

- **Description label**
  There are descriptions about the "SW2" and the "STATUS" indicators (STATUS 1 - 8) on this label. Attach this label to the top front side of the decoder (shown in the illustration on the right) or on the rack.

- **Code label**
  The MAC address of the appliance is described on this label. Keep this label by attaching it to the provided CD-ROM case, etc. The MAC address is also described on the label attached on the rear panel.



How to Display the Settings Menus

The settings for the encoder and the decoder are required to operate for the first time respectively. (The settings will be required also when the settings are initialized.)
The settings for the encoder and the decoder can be performed using a web browser installed on a PC. (Refer to the "System Requirements" of on page 8 about web browsers that can be used.)

To perform the settings, connect the encoder or the decoder by one of the following.

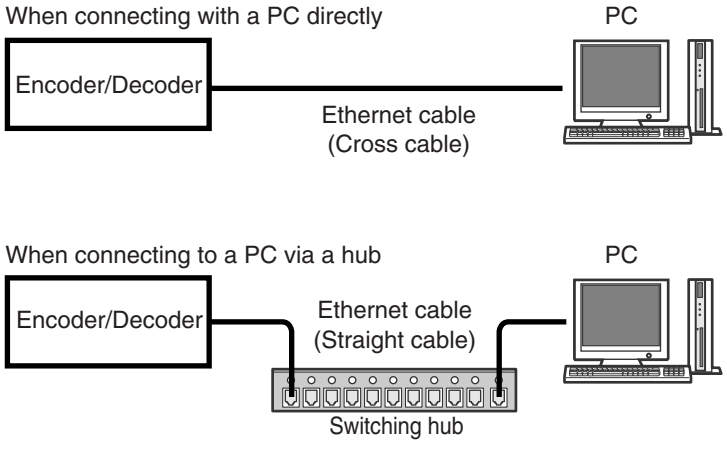
- Connect the encoder or the decoder to a PC directly (Recommended)
  In this case, it is necessary to change the network settings of a PC used for the settings.
- Connect the encoder and the decoder to a network (LAN)
  In this case, the network settings of the encoder and the decoder (IP addresses, the default gateway, etc.) are required to be the same as the settings of the connected network.

Depending on the user's environment, it is necessary to change the network settings of the encoder and the decoder (IP addresses, subnet masks, etc.).
In this case, using the "Panasonic IP Setup" software (included on the provided CD-ROM) will be useful to perform the settings.
Refer to the operating instructions (pdf file) on the supplied CD-ROM about the "Panasonic IP Setup" software and the settings of the encoder and the decoder.
Refer to these operating instructions for how to display the top page of the settings menus.

Before Starting Settings

Perform the following before starting settings.

1. Connect the encoder, the decoder and the PC in either way shown in the illustration below.
2. Turn the power switch of the encoder or the decoder to ON after the connection.



Setup with the Provided "Panasonic IP Setup" Software

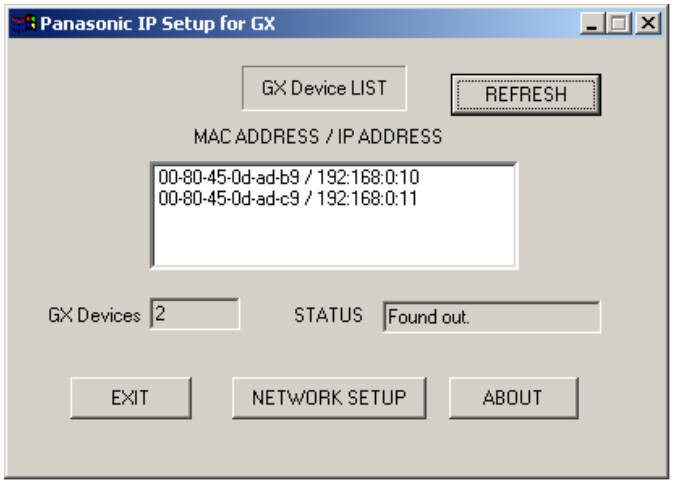
Set up the network of the encoder/decoder by using the "Panasonic IP Setup" software included on the provided CD-ROM.

Note: If a firewall (including software) exists, allow access to all UDP ports. Otherwise, it is impossible to use the "Panasonic IP Setup" software.

Items included in the software

- IPSETUP (Panasonic IP Setup)
- Operating Instructions (pdf file)

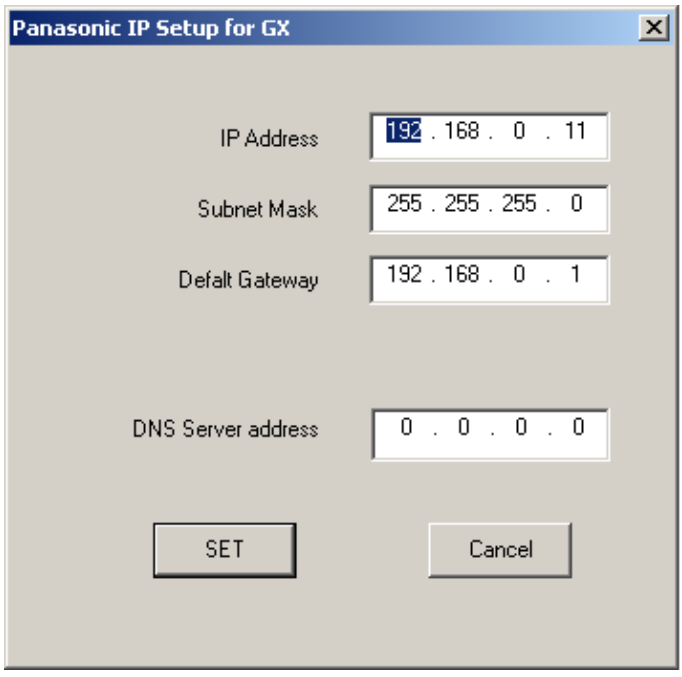
1. Double click the "IPSETUP" icon.
   The "Panasonic IP Setup" starts up.
   The MAC address and the IP address of the connected encoder/decoder will be displayed. (Click the [REFRESH] button if they are not displayed.)



2. Click the MAC address/IP address of the encoder/decoder to be set up.

3. Click the [NETWORK SETUP] button.

The setup window appears.


Panasonic IP Setup for GX
IP Address
192 . 168 . 0 . 11
Subnet Mask
255 . 255 . 255 . 0
Defalt Gateway
192 . 168 . 0 . 1
DNS Server address
0 . 0 . 0 . 0
SET
Cancel

4. Set parameters for each item.
   "IP Address"
   "Subnet Mask"
   "Default Gateway"
   "DNS Server address"

5. Click the [SET] button after completing the settings.

Important

It takes around 20 seconds to complete the settings of the encoder/decoder after the [SET] button is pressed. If the power cord or the Ethernet cable is detached before the settings are completed, the settings may not be performed correctly.

Network Setup of the PC

To set up the network of the PC, first change the TCP/IP settings of the PC to match the default settings of the encoder/recoder. The following are the default network settings of the encoder/recoder.

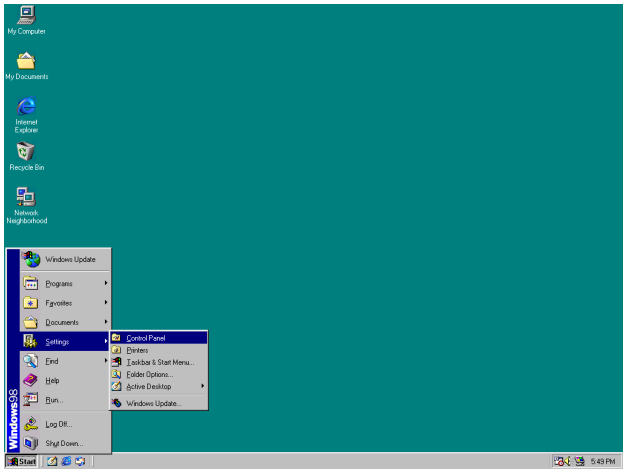
- IP address of the encoder: 192.168.0.10
- IP address of the decoder: 192.168.0.11
- Subnet mask (both the encoder and the decoder): 255.255.255.0
- Default gateway (both the encoder and the decoder): 192.168.0.1

To access the camera, the IP address of the PC should be "192.168.0.XXX" (where XXX should be a number from 2 to 254 except 10 and 11). If the IP address of the encoder/recoder is set with the "Panasonic IP Setup" software, perform the network setting of the PC according to the network environment.
The settings differ depending on which OS is installed on the PC. Confirm which OS is installed on your PC, and proceed with the settings corresponding to your OS.

Using Windows 98 SE

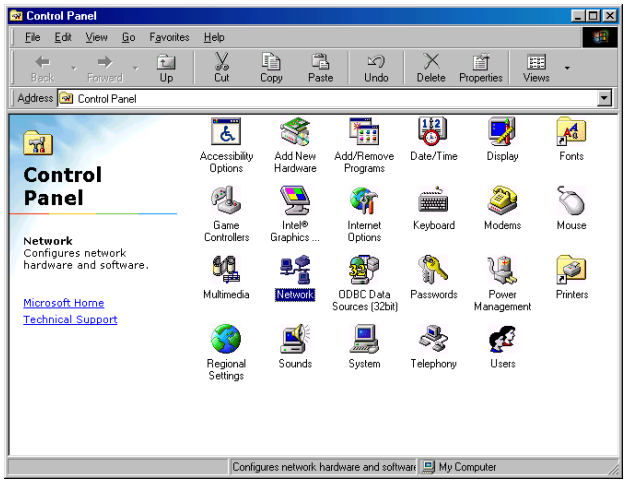
The following procedures are examples when using Windows 98 SE. You can proceed in the same way when using Windows Me.

Begin the setup when the PC is in the same condition as it is just after startup.



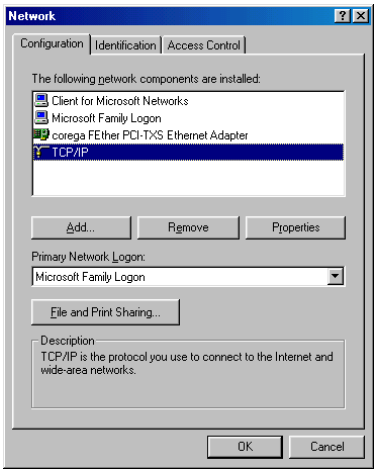
1. Select "Control Panel" ([Start] - [Settings] - [Control Panel]).

The "Control Panel" window appears.



2. Click once to select the [Network] icon.

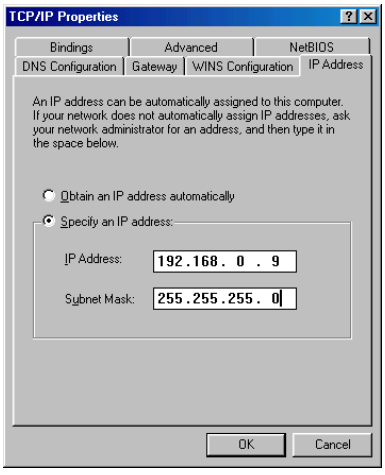
The "Network" window appears.



Note: If the "TCP/IP" item is not displayed, refer to the operating instructions of the OS and follow the procedures to install the TCP/IP.

3. Click the [Configuration] tab.
4. Click to select the TCP/IP protocol of the currently used network card.
5. Click the [Properties] button.

The "TCP/IP Properties" window appears.



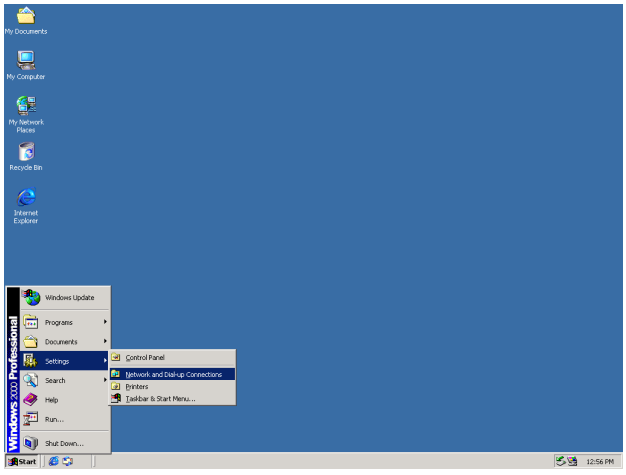
6. Click the [IP Address] tab.
7. Click the "Specify an IP address" radio button.
8. Enter the IP address and the subnet mask as follows.
   - IP Address: 192.168.0.9
   - Subnet Mask: 255.255.255.0
9. Click the [OK] button, and the window closes.
10. Restart the PC to make the IP address valid.

Using Windows 2000

The following procedures are examples when using Windows 2000. You can proceed in the same way when using Windows NT.

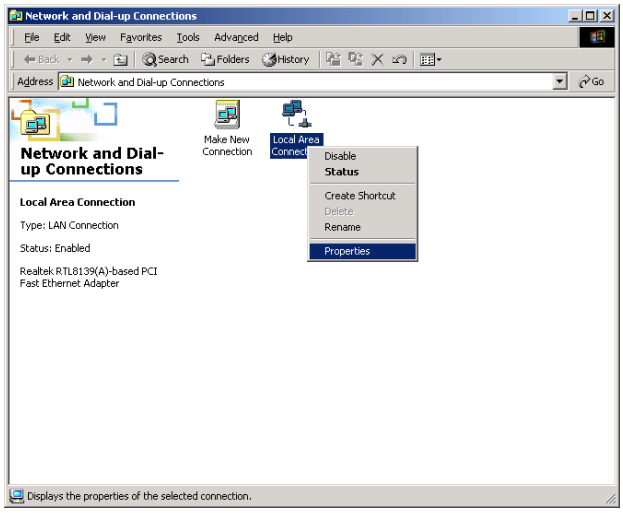
Important: Log in as one of the administrators before beginning the setup.

Begin the setup when the PC is in the same condition as it is just after the startup.



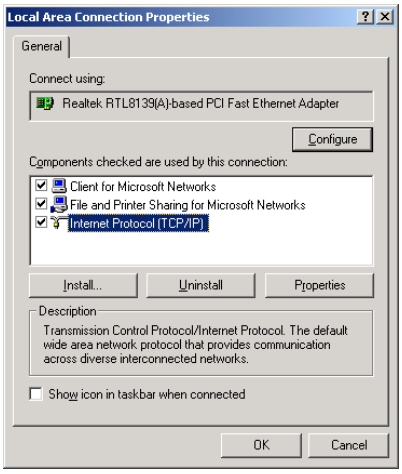
1. Select "Network and Dial-up Connections" ([Start] - [Settings] - [Network and Dial-up Connections]).

The "Network and Dial-up Connections" window appears.



2. Click the right mouse button on the "Local Area Connection" icon, and select "Properties" from the pop-up menu.

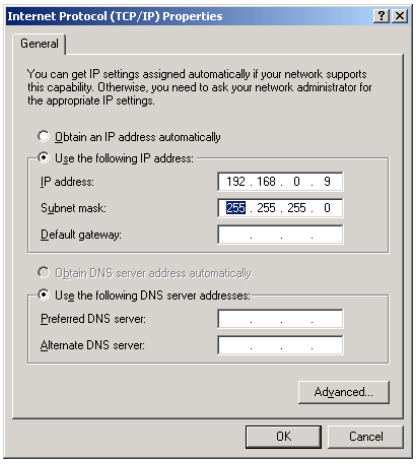
The "Local Area Connection Properties" window appears.



3. Click to select "Internet Protocol (TCP/IP)", and then click the [Properties] button.

Note: If the "Internet Protocol (TCP/IP)" item is not displayed, refer to the operating instructions of the OS and follow the procedures to install the TCP/IP.

The "Internet Protocol (TCP/IP) Properties" window appears.

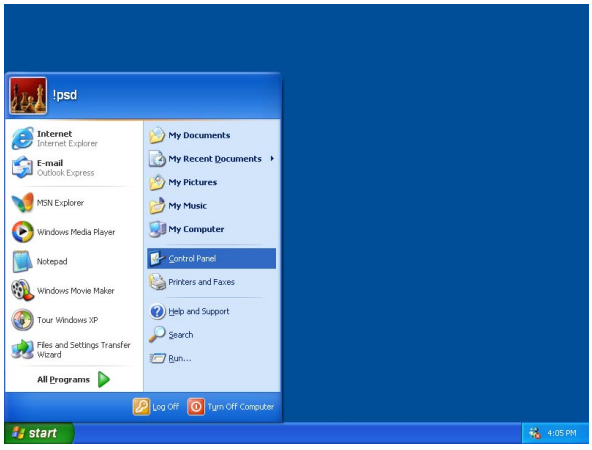

Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address: 192 . 168 . 0 . 9
Subnet mask: 255 . 255 . 255 . 0
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

4. Click the "Use the following IP address" radio button and enter the IP address and the subnet mask as follows.
   - IP address: 192.168.0.9
   - Subnet mask: 255.255.255.0

5. Click the [OK] button, and the window closes.

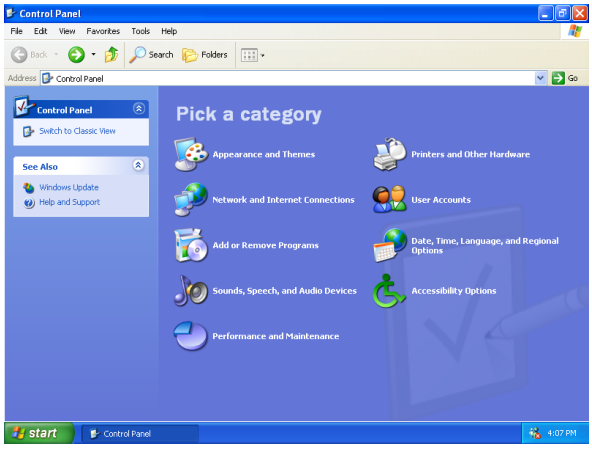
Using Windows XP (Category View)

Begin the setup when the PC is in the same condition as it is just after the startup.



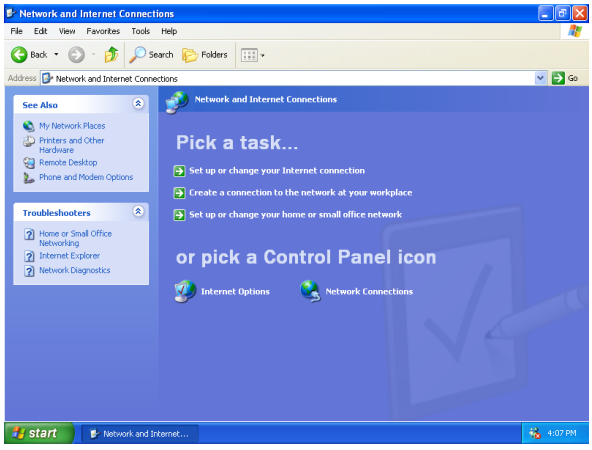
1. Select "Control Panel" ([Start] - [Control Panel]).

The "Control Panel" window appears.



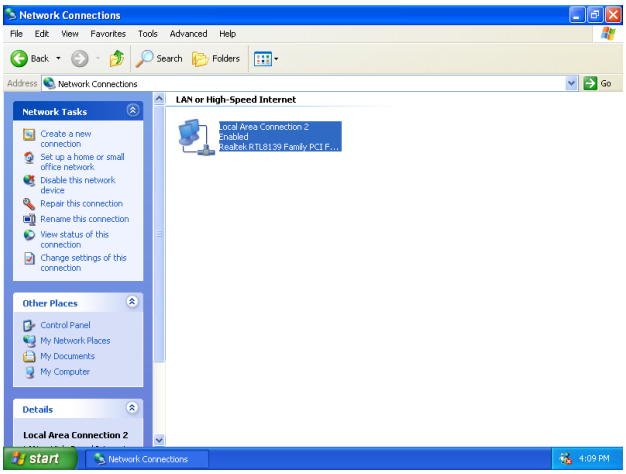
2. Double click the "Network and Internet Connections" icon.

The "Network and Internet Connections" window appears.



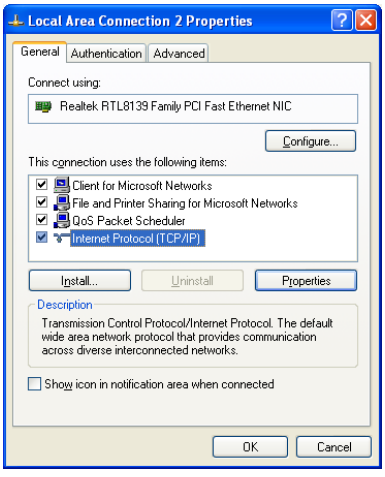
3. Double click the "Network Connections" icon.

The "Network Connections" window appears.



4. Click to select "Local Area Connection", and then click "Change settings of this connection" in the "Network Tasks" menu.

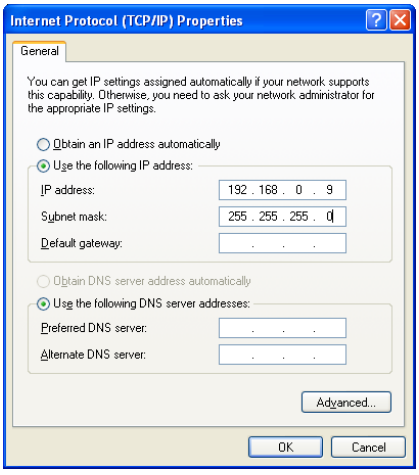
The "Local Area Connection Properties" window appears.



5. Click to select "Internet Protocol (TCP/IP)", and then click the [Properties] button.

Note: If the "Internet Protocol (TCP/IP)" item is not displayed, refer to the operating instructions of the OS and follow the procedures to install the TCP/IP.

The "Internet Protocol (TCP/IP) Properties" window appears.


Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address: 192 . 168 . 0 . 9
Subnet mask: 255 . 255 . 255 . 0
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

6. Click the "Use the following IP address" radio button and enter the IP address and the subnet mask as follows.
   - IP address: 192.168.0.9
   - Subnet mask: 255.255.255.0

7. Click the [OK] button, and the window closes.

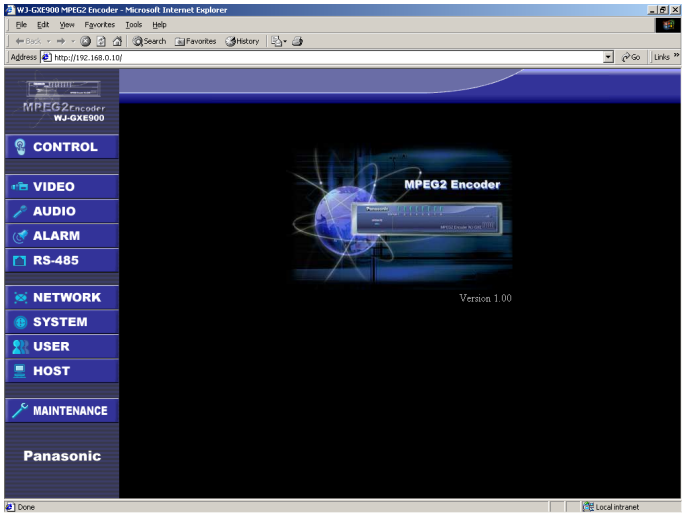
SETTINGS MENUS OF THE ENCODER

To perform the settings of the encoder, display the top page of the encoder first.
Refer to the network administrator about the required network addresses (IP addresses, etc.).

1. Enter the IP address of the encoder in the address box of the web browser and press the Enter key.
   For example, enter the default IP address of the encoder "192.168.0.10" in the address box of the web browser and press the Enter key.

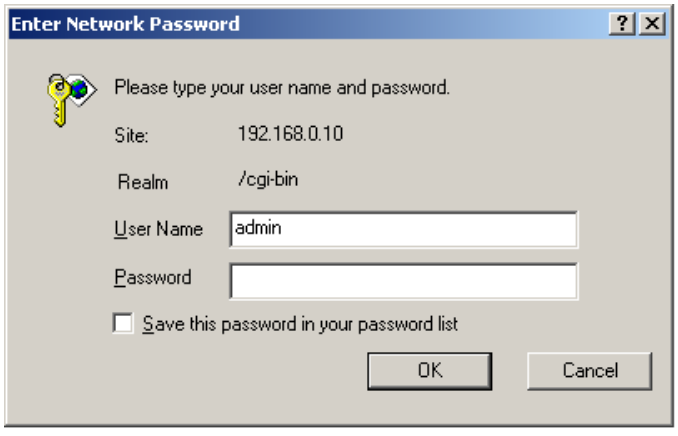
   http://192.168.0.10/

   The top page will be displayed.



The top page of the encoder

2. Click a desired button in the left column on the top page.
   The authentication dialog window will be displayed.



Enter a user name whose access level is 1 (ADMINISTRATOR) and a password, and click the [OK] button.
If the entered user name and password are registered, the settings page will be displayed.

When no user is registered yet, enter the default user name (admin) and password (blank: enter nothing).
(To register users, go to the USER page.)

When authenticated, the top page will be displayed again.
When authenticated once, the authentication dialog window will not be displayed by clicking the buttons in the left column until the web browser window is closed.

The items on the next page can be checked or changed on each settings page.
Click the [SET] button after changing the settings.

SETTINGS MENUS OF THE ENCODER

List of the Items on the Settings Pages of the Encoder

■ CONTROL/STATE page (page 43)

Destination IP address and destination port number of each of the VIDEO IN connectors streaming video and audio data to be sent
Starting and stopping to encode video and audio data

■ VIDEO page (for each video input channel) (page 44)

Camera No.
Camera title
Destination IP address
Destination port number
Source port number
Bit rate of streaming video and audio data
TOS BIT
TTL
Starting up the encoder automatically
Camera cable compensation
Dynamic range
Watermark
GOP

■ AUDIO page (page 46)

ON/OFF for sending audio data

■ ALARM page (page 47)

Action when a contact alarm occurs (Set details on the ALARM-DRY CONTACT page) (page 48)
Action when a camera site alarm occurs (Set details on the ALARM-CAMERA SITE ALARM page) (page 50)
Action when a video loss occurs (Set details on the ALARM-VIDEO LOSS ALARM page) (page 52)
IP address to be notified of alarms
Port number to be notified of alarms

■ RS-485 DATA PORT page (page 54)

RS-485 data port setup
Network port setup

■ NETWORK page (page 56)

IP address of the encoder
Subnet mask
Default gateway
DNS server (IP address)
MAC address (only for confirmation)
Transmission speed

■ SYSTEM page (page 57)

System mode
Video and audio encryption
NTP (Network Time Protocol)
Time and date
Device information
Main CPU mode setup
Note: The main CPU mode is the advanced function for integrated control.

■ USER page (page 59)

ON/OFF for user authentication
User registration
User deletion

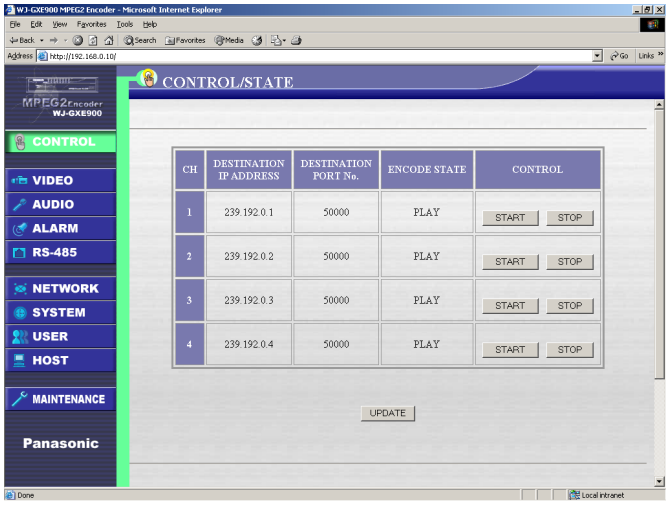
■ HOST page (page 60)

ON/OFF for host authentication
Host registration
Host deletion

■ MAINTENANCE page (page 61)

Camera control (only to confirm angle of view)
Firmware update
Restarting the encoder
Exclusive command authentication setup

CONTROL/STATE page



■ Item Descriptions

CH

Number of the VIDEO IN 1 - 4 connectors

DESTINATION IP ADDRESS/DESTINATION PORT No.

Displaying the respective destination IP addresses and destination port numbers of each of the VIDEO IN connectors streaming video and audio data to be sent

ENCODE STATE

PLAY: Displayed during streaming transmission
STOP: Displayed while stop streaming transmission

CONTROL

[START] button: Click this button to start encoding when the "ENCODE STATE" is "STOP".
[STOP] button: Click this button to stop encoding when the "ENCODE STATE" is "PLAY".

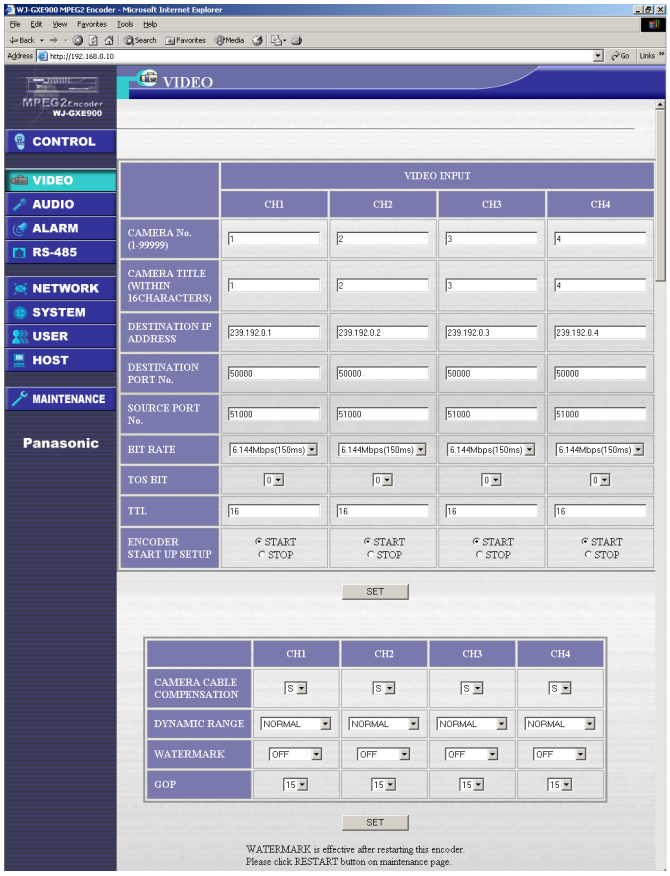
[UPDATE] button

Click this button to update the settings changed on the CONTROL/STATE page.

SETTINGS MENUS OF THE ENCODER

VIDEO page

Perform the settings for the VIDEO IN connectors respectively. The numbers of "CH" are the number of the VIDEO IN connectors respectively.



Note: Click the [SET] button to save the changed settings. Otherwise, the changed settings will not be saved.

■ Item Descriptions

CAMERA No.

Enter a number of the desired camera whose picture is to be displayed on the monitor.
1 to 99999 are available for the "CAMERA No.".
The default settings of the "CH1", "CH2", "CH3" and "CH4" are 1, 2, 3 and 4 respectively.

CAMERA TITLE

Enter up to 16 alphanumeric characters to be displayed on monitor screen as a camera title.
The default settings of the VIDEO IN 1 - 4 connectors are 1, 2, 3 and 4 respectively.

DESTINATION IP ADDRESS/DESTINATION PORT No.

The "DESTINATION IP ADDRESS" and the "DESTINATION PORT No." should be the same values entered for the "RECEIVING IP ADDRESS" and the "RECEIVING PORT No." of the decoder.
If they are not the same, pictures cannot be displayed on monitors connected to the decoder.
Depending on the setting for the "DESTINATION IP ADDRESS", the streaming method will be either multicast or unicast.
1024 to 65535 are available for the "DESTINATION PORT No.".
The default settings of the "DESTINATION IP ADDRESS" and the "DESTINATION PORT No." for "CH1", "CH2", "CH3" and "CH4" are as follows (for multicast).

CH1: 239.192.0.1/50000
CH2: 239.192.0.2/50000
CH3: 239.192.0.3/50000
CH4: 239.192.0.4/50000

Notes

When using multicast transmission

All of the "DESTINATION PORT No." should be the same if multicast IP addresses (224.0.0.0 to 239.255.255.255) are assigned to the "DESTINATION IP ADDRESS".

When using unicast transmission

- The "DESTINATION IP ADDRESS" should be the IP address of the decoder receives streaming video and audio data.
- Each "DESTINATION PORT No." should be different depending on the video input channels.

SOURCE PORT No.

Enter a port number for the video and audio data source.
1024 to 65535 are available for the "SOURCE PORT No.".
The default setting is 51000 for all channels.

BIT RATE

Enter a desired bit rate for streaming video and audio data.
When a higher bit rate is selected, picture quality will be better.
When a longer transmission delay is selected, the picture quality will be better.
The actual time of transmission delay will differ depending on video and audio data.

When "ON" is selected for the audio input channel on the AUDIO page, the bit rate of the video data will be subtracted 96 kbps from the selected bit rate.
The bit rate is selectable from the following:
1.5 Mbps, 3.0 Mbps, 3.8 Mbps, 4.6 Mbps, 6.1 Mbps (150 ms), 6.1 Mbps (100 ms), 9.2 Mbps (150 ms), 9.2 Mbps (100 ms)

The transmission delay for "6.1 Mbps (150 ms)" and "9.2 Mbps (150 ms)" is 150 ms.
The transmission delay for "6.1 Mbps (100 ms)" and "9.2 Mbps (100 ms)" is 100 ms.
The transmission delay for "1.5 Mbps", "3.0 Mbps", "3.8 Mbps" and "4.6 Mbps" are 150 ms fixed.
The default setting is "6.1 Mbps (150 ms)" for all channels.

TOS BIT

It is necessary to set the TOS (Type of Service) bit to control priorities of streaming data in a switching hub or a router.
Note: Some models of switching hubs and routers are not compatible with the TOS bit.
In this case, use the default settings for this item. (There is no problem with any value for this setting.)
0 to 7 are available for the "TOS BIT". ("7" is the highest priority.)
The default setting is "0" for all channels.
Refer to a network administrator about compatibility of the switching hub or the router, and priority to be selected for this item.

TTL

It is necessary to set the TTL (Time to Live) to not to send streaming data to a network that does not want it when using multicast transmission.
0 to 255 are available for the TTL.
The selected value is diminished one by one each time the stream data passes the switching hub or the router, and stops passing the switching hub or the router when it reaches to 0.
The default setting is "16" for all channels.

ENCODER START UP SETUP

Select "START" or "STOP" whether the encoder starts streaming video and audio data transmission automatically or not after restarting or turning the power of the encoder on.
The default setting is "START" for all channels.

CAMERA CABLE COMPENSATION

Select a cable length from "S", "M" or "L" depending on the distance between the camera and the encoder.
Select the proper cable length to obtain proper pictures by amplifying the video signal effectively.
When using RG-59U, BELDEN 9259 or equivalent cables, a cable length of "S", "M" and "L" will be determined as follows;
S: Less than 400 m (1 300 ft)
M: 400 m (1 300 ft) - less than 700 m (2 300 ft)
L: 700 m (2 300 ft) - less than1 900 m (3 000ft)
The default setting is "S" for all channels.

DYNAMIC RANGE

Select a maximum brightness level of the camera picture. When using a camera with high-level brightness, select "WIDE" or "SUPER WIDE".
NORMAL: Normally, select this.
WIDE: Makes the maximum brightness level higher than "NORMAL"
SUPER WIDE: Makes the maximum brightness level higher than "WIDE"
The default setting is "NORMAL" for all channels.

WATERMARK

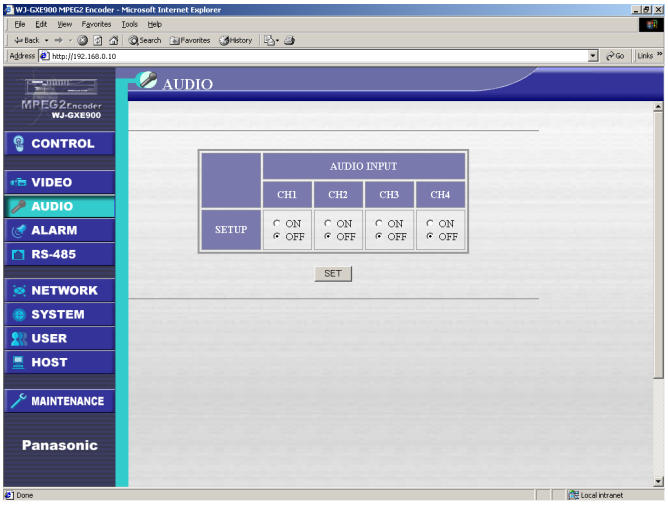
Watermark is the function which embeds data such as time and date in video data.
When using a server to save and stock encoded MPEG2 data with the encoder, it is useful to check their authenticity.
Select from "OFF", "WEAK", "NORMAL", and "STRONG" depending on the distance between the

camera and the decoder.
When "STRONG" is selected, the authenticity of the watermark will be more reliable but the quality of pictures will become lower.
The default setting is "OFF" for all channels.

GOP

In a MPEG stream, coded data is a composition of frame units. This unit is called GOP (Group of Picture). GOP consists of 3 picture groups (I picture, P picture and B picture). The intervals between I-frames become shorter when the GOP size is smaller; the intervals between I-frames become longer when the GOP size is bigger.
For example, when the GOP size is 15, an I-frame will be inserted every 500ms and the rest of the 14 frames consist of P-frames.
The default setting is "15" for all channels.

AUDIO page



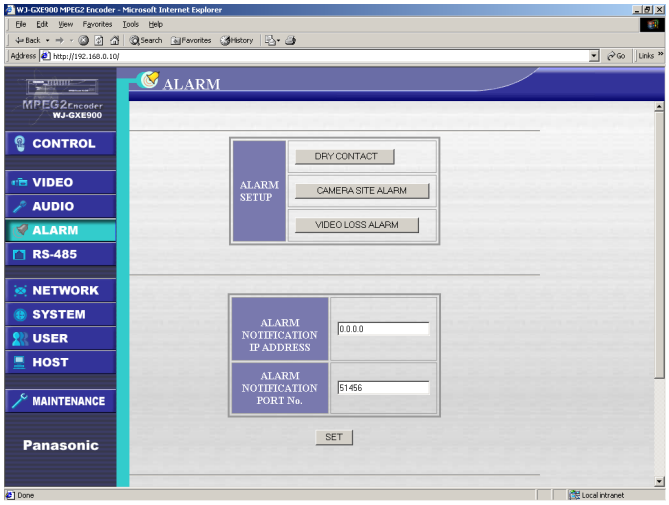
Note: Click the [SET] button to save the changed settings. Otherwise, the changed settings will not be saved.

■ Item Descriptions

To send audio from the audio source connected to the encoder, select "ON".
To not to send audio from the audio source connected to the encoder, select "OFF".
The default setting is "OFF" for all channels.

ALARM page

Perform the settings for each alarm type and the alarm notification.



Note: Click the [SET] button to save the changed settings. Otherwise, the changed settings will not be saved.

■ Item Descriptions

ALARM SETUP

Perform the settings for each alarm type in detail. Click the button of the desired alarm type to go to the respective setting page.

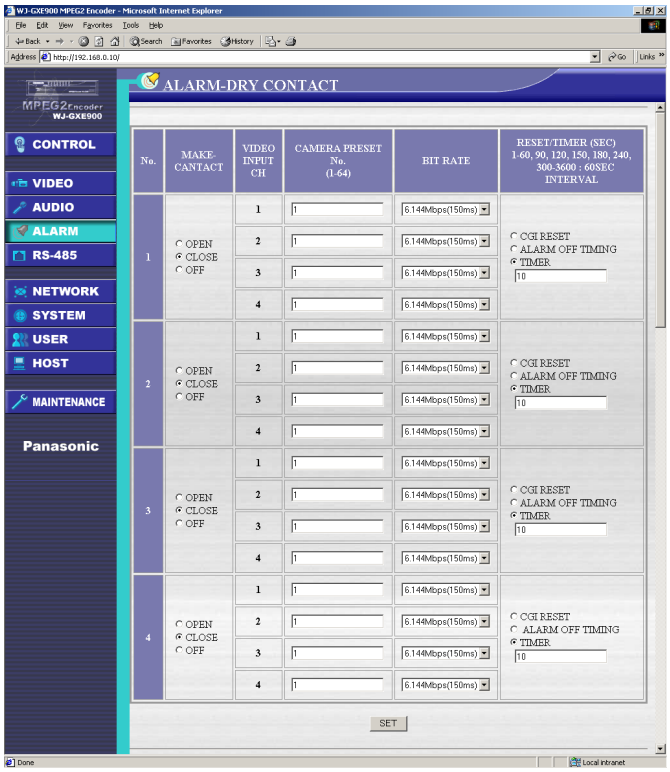
- **DRY CONTACT**
  Setting of the action performed when the ALARM IN connector on the rear panel receives an alarm signal.
- **CAMERA SITE ALARM**
  Setting of the action performed when the VIDEO IN connector on the rear panel receives an alarm signal from a camera or a receiver which can overlap the alarm output signal with the video signal.
- **VIDEO LOSS ALARM**
  Setting of the action performed when video loss occurs. (When the encoder detects that no video signal is supplied, the encoder regards it as the video loss. Video loss occurs when a camera is malfunctioning, the power of the camera is off, a wire is broken, there is connection trouble, etc.)

ALARM NOTIFICATION IP ADDRESS/ALARM NOTIFICATION PORT No.

Enter an IP address and a port number to be send an alarm notification command when an alarm (dry contact, camera site alarm or video loss alarm) occurs. The alarm notification command has information on the alarm type and the time and date of the alarm occurrence.
1024 to 65535 are available for the "ALARM NOTIFICATION PORT No.".
The default settings of the "ALARM NOTIFICATION IP ADDRESS" and the "ALARM NOTIFICATION PORT No." are as follows.
ALARM NOTIFICATION IP ADDRESS: 0.0.0.0
ALARM NOTIFICATION PORT No.: 51456

SETTINGS MENUS OF THE ENCODER

ALARM-DRY CONTACT page



Note: Click the [SET] button to save the changed settings. Otherwise, the changed settings will not be saved.

■ Item Descriptions

No.

The numbers of the ALARM IN connectors

MAKE CONTACT

Set whether to control the encoder by making contact or not.
When an alarm input continues for more than 100 ms, the encoder regards it as an alarm occurrence.

OPEN

When a closed contact is opened, the encoder regards it as an alarm occurrence.

CLOSE

When an open contact is closed, the encoder regards it as an alarm occurrence.

OFF

The encoder does not detect any alarm from the correspondent port. No alarm notification is sent.

When "OPEN" or "CLOSE" is selected, the following actions will be performed at the same time.

- Notification of an alarm occurrence to the destination set on the ALARM page using the TCP/IP command
- Camera is controlled by a preset number
- Changing of the bit rate

The default setting is "CLOSE" for all ports.

VIDEO INPUT CH

The numbers of the VIDEO IN connectors

CAMERA PRESET No. (1 - 16)

When the encoder detects an alarm from a camera with preset functions connected to the VIDEO IN connector, the encoder performs the preset control on the camera. In this case, the preset function settings for the camera to be controlled should be performed in advance.
This setting is invalid when a camera without the preset functions is connected.

There is no default setting.

BIT RATE

When the encoder detects an alarm, the encoder changes the bit rate of the streaming video data temporarily. The bit rate of up to 4 streams can be changed simultaneously when an alarm is detected.
The default setting is "6.14 Mbps (150 ms)" for all channels.

RESET/TIMER (SEC) 1 - 60, 90, 120, 150, 180, 240, 300 - 3 600: 60 SEC INTERVAL

When the alarm is reset, the bit rate returns to the set value on the VIDEO page and the alarm status is released.

Select the method of release from the following.

CGI RESET

Resets the alarm using the CGI commands.

Refer to "RESETTING THE ALARM/DISPLAYING THE ALARM STATUS" of the "HOW TO USE THE CGI COMMANDS" section on page 102.

ALARM OFF TIMING

Resets the alarm at the timing as follows:

- Timing of a closed contact is opened if "OPEN" is selected for "MAKE CONTACT".
- Timing of an open contact is closed if "CLOSE" is selected for "MAKE CONTACT".

TIMER

The timer starts when the alarm is detected. When the entered time for this setting has past, the alarm will be reset automatically. Select the time (seconds) from the following.

1 - 60 (a second step), 90, 120, 150, 180, 240, 300 - 3 600 (60 seconds interval)

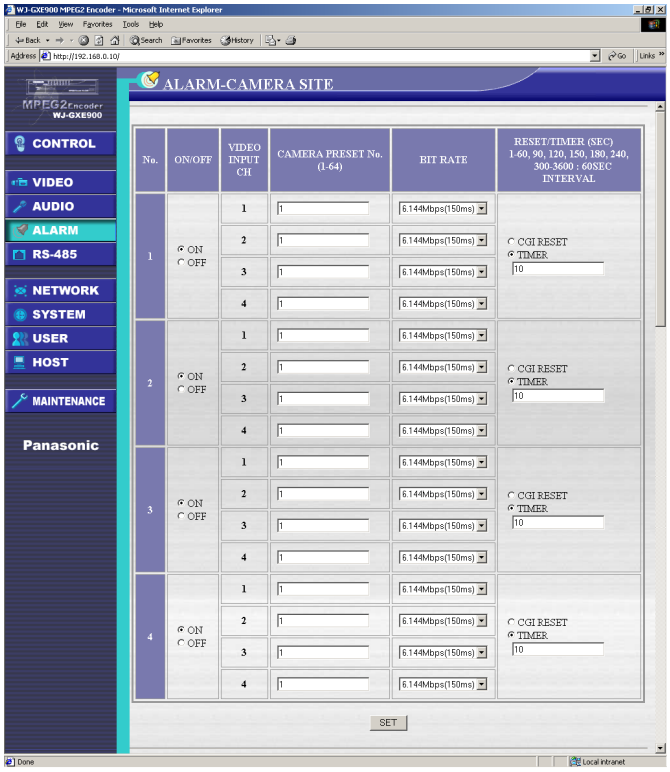
Notes:

- When an alarm with the same alarm type and number is detected and the timer is activated, the timer resumes from the set value.
- When alarms are detected successively, the encoder is controlled by each alarm.

The default setting is "TIMER" and the timer is set to "10" (seconds) for all ports.

SETTINGS MENUS OF THE ENCODER

ALARM-CAMERA SITE page



Note: Click the [SET] button to save the changed settings. Otherwise, the changed settings will not be saved.

■ Item Descriptions

No.

The numbers of the VIDEO IN connectors

ON/OFF

Set whether to control the encoder by alarm input or not.

ON

When the camera site alarm is detected, the following actions will be performed at the same time.

- Notification of an alarm occurrence to the destination set on the ALARM page
- Camera is controlled by a preset number
- Changing of the bit rate

OFF

The encoder does not detect any alarm from the camera site. No alarm notification is sent.

The default setting is "ON" for all ports.

VIDEO INPUT CH

The numbers of the VIDEO IN connectors

CAMERA PRESET No. (1 - 16)

When the encoder detects an alarm from a camera with preset functions connected to the VIDEO IN connector, the encoder performs the preset control on the camera. In this case, the preset function settings for the camera to be controlled should be performed in advance.
This setting is invalid when a camera without the preset functions is connected.

There is no default setting.

BIT RATE

When the encoder detects an alarm, the encoder changes the bit rate of the streaming video data temporarily. The bit rate of up to 4 streams can be changed simultaneously when an alarm is detected.
The default setting is "6.14 Mbps (150 ms)" for all channels.

RESET/TIMER (SEC) 1 - 60, 90, 120, 150, 180, 240, 300 - 3600: 60 SEC INTERVAL

When the alarm is reset, the bit rate returns to the set value on the VIDEO page and the alarm status is released.
Select the method of release from the following.

CGI RESET

Resets the alarm using the CGI commands.
Refer to "RESETTING THE ALARM/DISPLAYING THE ALARM STATUS" of the "HOW TO USE THE CGI COMMANDS" section on page 102.

TIMER

The timer starts when the alarm is detected. When the entered time for this setting has passed, the alarm will be reset automatically. Select the time (seconds) from the following.
1 - 60 (a second step), 90, 120, 150, 180, 240, 300 - 3 600 (60 seconds interval)

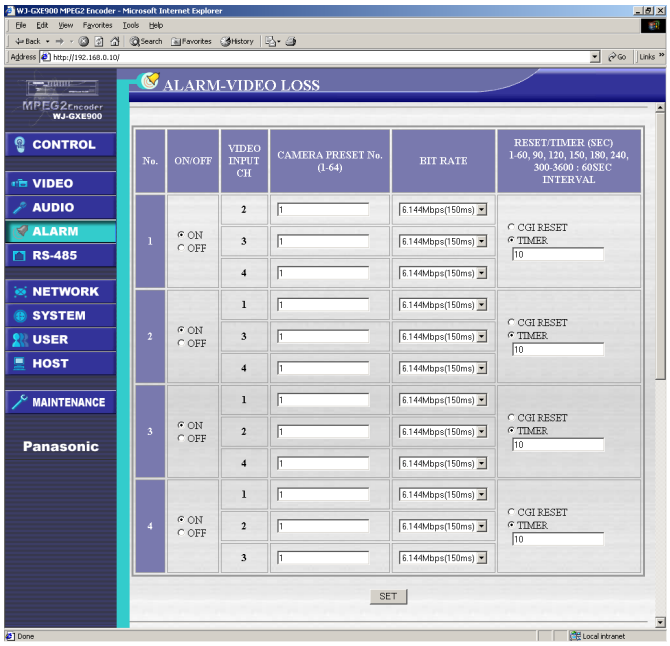
Notes:

- When an alarm with the same alarm type and number is detected and the timer is activated, the timer resumes from the set value.
- When alarms are detected successively, the encoder is controlled by each alarm.

The default setting is "TIMER" and the timer is set to "10" (seconds) for all ports.

SETTINGS MENUS OF THE ENCODER

ALARM-VIDEO LOSS page



Note: Click the [SET] button to save the changed settings. Otherwise, the changed settings will not be saved.

■ Item Descriptions

No.

The numbers of the VIDEO IN connectors

ON/OFF

Set whether to control the encoder by alarm input or not.

ON

When the video loss alarm is detected, the following actions will be performed at the same time.

- Notification of an alarm occurrence to the destination set on the ALARM page
- Camera is controlled by a preset number
- Changing of the bit rate

Note: Control by preset number and changing the bit rate will not be performed for a camera connected to the VIDEO IN connector from which the alarm is detected.

OFF

The encoder does not detect any video loss alarm. No alarm notification is sent.

The default setting is "ON" for all ports.

VIDEO INPUT CH

The numbers of the VIDEO IN connectors

CAMERA PRESET No. (1 - 16)

When the encoder detects an alarm from a camera with preset functions connected to the VIDEO IN connector, the encoder performs the preset control on the camera. In this case, the preset function settings for the camera to be controlled should be performed in advance.
This setting is invalid when a camera without the preset functions is connected.

There is no default setting.

BIT RATE

When the encoder detects an alarm, the encoder changes the bit rate of the streaming video data temporarily. The bit rate of up to 3 streams can be changed simultaneously when an alarm is detected.
The default setting is "6.14 Mbps (150 ms)" for all channels.

RESET/TIMER (SEC) 1 - 60, 90, 120, 150, 180, 240, 300 - 3 600: 60 SEC INTERVAL

When the alarm is reset, the bit rate returns to the set value on the VIDEO page and the alarm status is released.

Select the method of release from the following.

CGI RESET

Resets the alarm using the CGI commands.

Refer to "RESETTING THE ALARM/DISPLAYING THE ALARM STATUS" of the "HOW TO USE THE CGI COMMANDS" section on page 102.

TIMER

The timer starts when the alarm is detected. When the entered time for this setting has passed, the alarm will be reset automatically. Select the time (seconds) from the following.

1 - 60 (a second step), 90, 120, 150, 180, 240, 300 - 3 600 (60 seconds interval)

Notes:

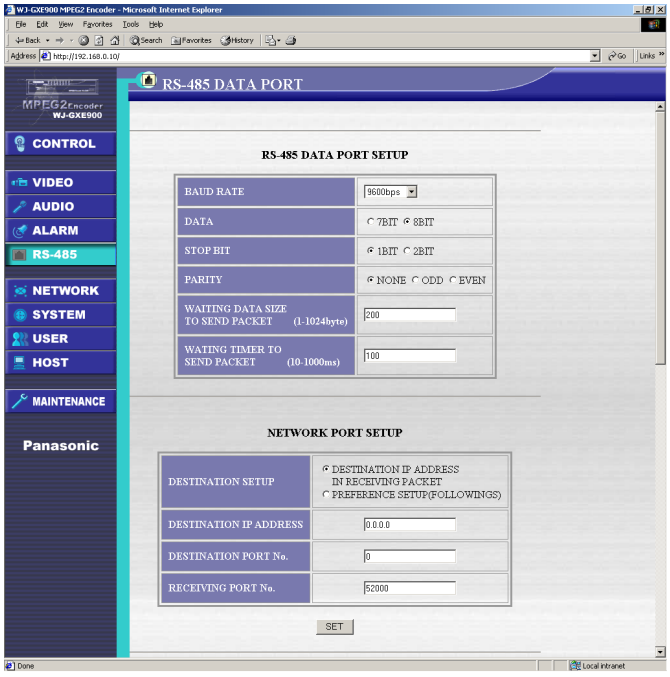
- When an alarm with the same alarm type and number is detected and the timer is activated, the timer resumes from the set value.
- When alarms are detected successively, the encoder is controlled by each alarm.

The default setting is "TIMER" and the timer is set to "10" (seconds) for all ports.

SETTINGS MENUS OF THE ENCODER

RS-485 DATA PORT page

Perform the settings to send and receive serial data duplex. The setting values should be the same for both devices.



Notes

- Packets will be sent to a network when either setting of "WAITING DATA SIZE TO SEND PACKET" or "WAITING TIMER TO SEND PACKET" is fulfilled.
- When "PREFERENCE SETUP" is selected for "DESTINATION SETUP", packets will be set to only one destination.
- The encoder cannot receive fragmented UDP packets correctly.
- Click the [SET] button to save the changed settings. Otherwise, the changed settings will not be saved.

■ Item Descriptions

RS-485 DATA PORT SETUP

Perform the transmission settings of the encoder with a device connected to the RS-485 data port of the encoder.
These settings should be the same for both the encoder and the device connected to the encoder.

BAUD RATE

Select a transmission speed for the RS-485 data port from the following.
4 800 bps, 9 600 bps, 19 200 bps
The default setting is "9 600 bps".

DATA

Select "7 BIT" or "8 BIT".
The default setting is "8 BIT".

STOP BIT

Select "1 BIT" or "2 BIT".
The default setting is "1 BIT".

PARITY

Select from "NONE", "ODD" or "EVEN".
The default setting is "NONE".

WAITING DATA SIZE TO SEND PACKET (1 - 1024 byte)

Enter a desired data length of serial data the RS-485 data port can receive at one time. The entered size will be the maximum size of the packet to be sent to the network. When the received serial data is bigger than the entered size, the received data will be divided into two or more packets and then sent to the network.
1 to 1024 are available for "WAITING DATA SIZE TO SEND PACKET" (1 byte step).
The default setting is "200".

WAITING TIMER TO SEND PACKET (10 - 1000ms)

Enter a desired waiting time (time from when the RS-485 data port receives serial data to when it sends a packet to the network).
1 to 1 000 (ms) are available for "WAITING TIMER TO SEND PACKET" (10 ms intervals).
The default setting is "100".

NETWORK PORT SETUP

DESTINATION SETUP

Perform the settings for the destination which receives the packets.

Select "DESTINATION IP ADDRESS IN RECEIVING PACKET" or "REFERENCE SETUP (FOLLOWINGS)".

DESTINATION IP ADDRESS IN RECEIVING PACKET

Serial data will be sent to the IP address contained in the received packet. Therefore, the destination IP address will not be decided until receiving the packet, and it is impossible to send the received serial data from the RS-485 data port to the network. It is useful to select this when receiving packets from several sources and you are required to respond to them. When receiving packets from several sources, the source IP address of the newest packet will be the destination IP address.

REFERENCE SETUP (FOLLOWINGS)

When selecting this, enter an IP address and a port number for "DESTINATION IP ADDRESS" and "DESTINATION PORT No." respectively.

Serial data will be sent using the entered port number for "DESTINATION PORT No." to the entered IP address for "DESTINATION IP ADDRESS".

DESTINATION IP ADDRESS

When "REFERENCE SETUP (FOLLOWINGS)" is selected, enter the IP address of the device on the network to which packets are to be sent. This setting is valid only when "REFERENCE SETUP (FOLLOWINGS)" is selected

The default setting is "0.0.0.0".

DESTINATION PORT No.

When "REFERENCE SETUP (FOLLOWINGS)" is selected, enter the port number of the device on the network to which packets are to be sent.

The default setting is "0".

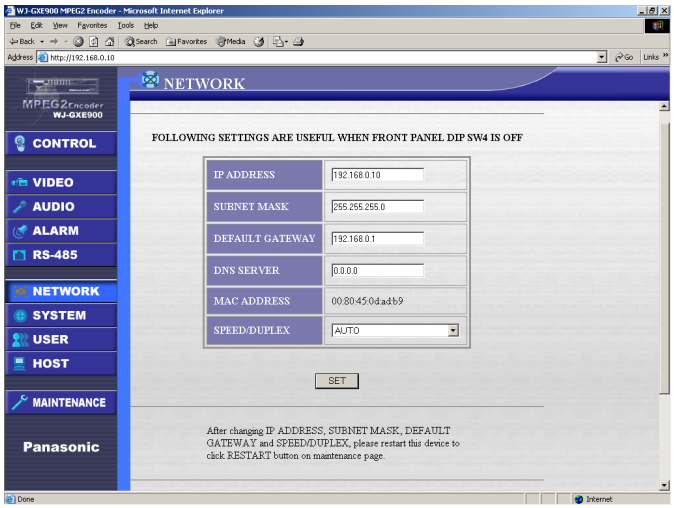
RECEIVING PORT No.

When "REFERENCE SETUP (FOLLOWINGS)" is selected, enter the port number which receives packets from the network. The default setting is "52000".

The default setting is "DESTINATION IP ADDRESS IN RECEIVING PACKET".

SETTINGS MENUS OF THE ENCODER

NETWORK page



Note: It is necessary to restart the encoder to save the changed settings. Otherwise, the changed settings will not be saved. Restarting the encoder can be done on the MAINTENANCE page. Click the [MAINTENANCE] button in the left column to go to the MAINTENANCE page and click the [RESTART] button on the MAINTENANCE page. It will take around 2 minutes and 45 seconds for the encoder to become operable after the restart.

■ Item Descriptions

Perform the following settings after referring to a network administrator about the setting items. Perform the settings only when the SW4 switch on the front panel of the encoder is set to OFF.

IP ADDRESS

Enter the IP address of the encoder.
When the SW4 switch on the front panel of the encoder is set to ON, an IP address assigned by DHCP will be displayed.
The default setting is "192.168.0.10".

SUBNET MASK

Enter the subnet mask of the encoder to connect to the network.
When the SW4 switch on the front panel of the encoder is set to ON, a subnet mask assigned by DHCP will be displayed.
The default setting is "255.255.255.0".

DEFAULT GATEWAY

Enter the default gateway to connect to the network.
When the SW4 switch on the front panel of the encoder is set to ON, a default gateway assigned by DHCP will be displayed.
The default setting is "192.168.0.1".

DNS SERVER

Enter the IP address of the DNS server to connect to the network.
The default setting is "0.0.0.0".

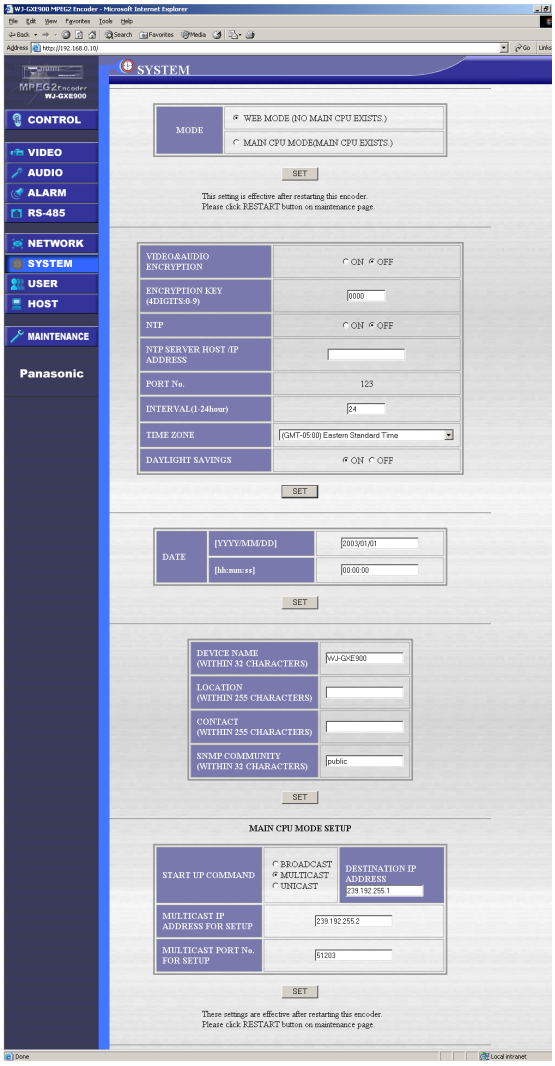
MAC ADDRESS

The MAC address of the encoder will be displayed.
It is impossible to change this value.

SPEED/DUPLEX

Select a transmission speed between the encoder and a network device such as a switching hub or a router from the following.
AUTO: Transmission speed will be automatically set.
100BASE-TX FULL DUPLEX: Sending and receiving data will be performed simultaneously.
100BASE-TX HALF DUPLEX: Sending and receiving data will be performed alternately.
The default setting is "AUTO".

SYSTEM page



Notes

- The Main CPU mode is the advanced function for integrated control. There is no product on the market as of June 2003.
- Click the [SET] button to save the changed settings. Otherwise, the changed settings will not be saved.

■ Item Descriptions

MODE

The "MODE" will be decided according to the system environment.
When there is no Main CPU controlling the encoder and the decoder, select "WEB MODE (NO MAIN CPU EXISTS).
When there is a Main CPU controlling the encoder and the decoder, select "MAIN CPU MODE (MAIN CPU EXISTS).

WEB MODE (NO MAIN CPU EXISTS)

It is necessary to access respectively the encoder and the decoder through a network using a web browser to perform the settings. The settings for the encoder and the decoder will be saved and the settings will be applied.

MAIN CPU MODE (MAIN CPU EXISTS)

The Main CPU mode is the advanced function for integrated control.

The default setting is "WEB MODE (NO MAIN CPU EXISTS)".

VIDEO&AUDIO ENCRYPTION

Select "ON" or "OFF" to set whether to encrypt video and audio data or not.
When "ON" is selected, video and audio data of all the 4 channels will be encrypted.

ENCRYPTION KEY (4 DIGITS: 0 - 9)

Enter a number up to 4 digits for the encryption key code.

Important

- When using the encryption, it is necessary to set the same key code to the encoder and the decoder receiving the encrypted data. When the encryption key and the decryption key do not match, it is impossible to display the streaming video on the monitor connected to the decoder.
- If the encryption key is changed when "ON" is selected for "VIDEO&AUDIO ENCRYPTION", blue pictures or video in the memory may be displayed.

NTP

NTP (Network Time Protocol) is the protocol to match the current time by referring to an NTP server through the network.
Select "ON" or "OFF" to set whether to use the NTP or not.

When "ON" is selected, it is also necessary to set the following 4 items:
- NTP SERVER HOST/IP ADDRESS
- INTERVAL (1 - 24 hour)
- TIME ZONE
- DAYLIGHT SAVINGS

NTP SERVER HOST/IP ADDRESS

Enter a host name or an IP address of an NTP server.
When a host name is entered, it is necessary to enter the IP address of the DNS server in the "DNS SERVER" input box on the NETWORK page. Otherwise, the NTP will not function.
There is no default setting.

PORT No.

Displays the port number (123) used for transmission to the NTP server.
It is impossible to change it.

INTERVAL (1 - 24 hour)

Set the interval time from 1 to 24 hour (1 hour step) to refer to the NTP server.
The default setting is "24" (referring to the NTP server every 24 hours).

TIME ZONE

Set the time zone (GMT) of where the encoder is installed.
The default setting is "(GMT - 05:00) Eastern Standard Time".

DAYLIGHT SAVINGS

Select "ON" or "OFF" to set whether to apply the summer time according to the area selected for "TIME ZONE".
When "ON" is selected, the clock is automatically advanced one hour in summer and is put back one hour in winter.
The default setting is "ON".

DATE

It is possible to set the time and date manually.
This setting is valid when "OFF" is selected for "NTP".
The displayed time and date is the time and date when this page is opened.
Enter time and date in the respective input boxes.
The valid time and date ranges are as follows.
[YYYY/MM/DD]
2003/01/01 - 2038/01/19
[hh:mm:ss]
00:00:00 - 23:59:59

The default settings are "2003/01/01" and "00:00:00" respectively.

Note: If these settings are performed, it is possible to be informed of the time and date of an alarm occurrence.
When "MAIN CPU MODE (MAIN CPU EXISTS)" is selected for "MODE", it is possible to select whether the time and date to be displayed on the monitor are the time and date set on the camera side or on the control side.

■ DEVICE NAME/LOCATION/CONTACT/ SNMP COMMUNITY

Perform these settings only when using the SNMP (Simple Network Management Protocol).
Enter alphanumeric characters or punctuation marks except for the double quotation mark (") and the semicolon (;).

■ MAIN CPU MODE SETUP

When "MAIN CPU MODE (MAIN CPU EXISTS)" is selected for "MODE", it is necessary to set the items in this section.

Note: The main CPU mode is the advanced function for integrated control.

START UP COMMAND

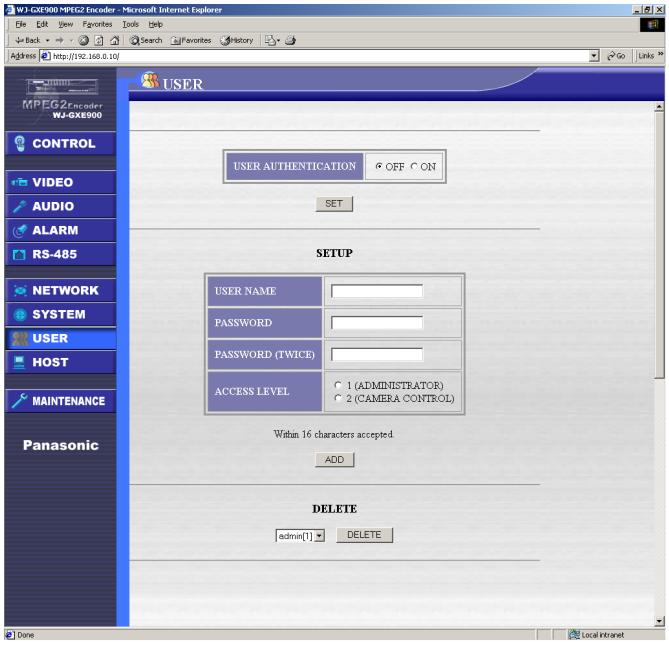
Depending on the network environment, select "BROADCAST", "MULTICAST" or UNICAST".
When "MULTICAST" or "UNICAST" is selected, enter also the "DESTINATION IP ADDRESS".
The entered IP address will be the destination IP address of the Main CPU receiving the start up command.
The default setting is "239.192.255.1".

MULTICAST IP ADDRESS FOR SETUP/MULTICAST PORT No. FOR SETUP

Enter an IP address and a port number to receive the setup command from the Main CPU.
The default settings are "239.192.255.2" for the IP address and "51203" for the port number.

USER page

Perform the settings to restrict users to access the encoder on this page.
It is possible to restrict access to the encoder by the "USER AUTHENTICATION" and the "HOST AUTHENTICATION".
Refer to the next page when using both the "USER AUTHENTICATION" and the "HOST AUTHENTICATION".



Notes

- The following user (administrator) is registered as default setting.
  USER NAME: admin
  PASSWORD: none (blank)
  ACCESS LEVEL: 1 (ADMINISTRATOR)
- It is impossible to delete the user "admin".
  It is possible to set a password for the user "admin". However, if the entered password is forgotten, it is necessary to reset all the settings to the default settings by setting the "SW2" switch on the front panel of the encoder to "ON".
  When the password is entered, write it down and keep it safely so as not to forget it.
- Click the [SET] button to save the changed settings. Otherwise, the changed settings will not be saved.

■ Item Descriptions

● USER AUTHENTICATION

Select "ON" or "OFF" to set whether to apply the user authentication or not.
However, when using a web browser to perform the settings, it is necessary to be authenticated regardless of the "ON" or "OFF" setting.
The default setting is "OFF".

● SETUP

Up to 16 users can be registered.
A registered user can be deleted using the "DELETE" pull-down menu in the section at the bottom of this page.

USER NAME/PASSWORD

Enter up to 16 alphanumeric characters for the user name and the password.
However, the colon (:) and the semicolon (;) cannot be used.

PASSWORD (TWICE)

Enter the password again for confirmation.

ACCESS LEVEL

Select one of the following for the access level.
1 (ADMINISTRATOR)
It is possible to perform the settings on the settings pages and operate the encoder using the CGI commands.
2 (CAMERA CONTROL)
It is possible only to operate the encoder using the CGI commands. It is not possible to perform the settings on the settings pages.

[ADD] button
Click to add a user after entering the user information.

● DELETE

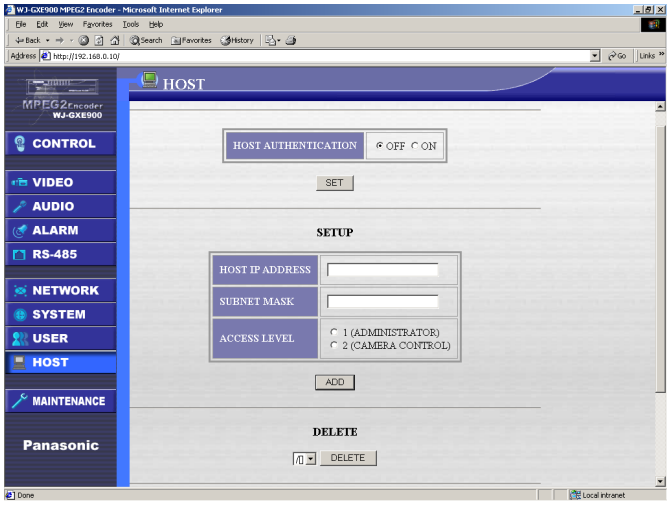
Select a user to be deleted from the pull-down menu, and click the [DELETE] button.
In the pull-down menu, user names are displayed with their access level as follows.
Example: admin[1]
Confirm that the user has been deleted from the pull-down menu.

Note: To set the password for the default user "admin", enter "admin" in the "USER NAME" input box, and the password in the "PASSWORD" and "PASSWORD (TWICE)" input boxes.
The access level setting will be fixed to "1 (ADMINISTRATOR)".

SETTINGS MENUS OF THE ENCODER

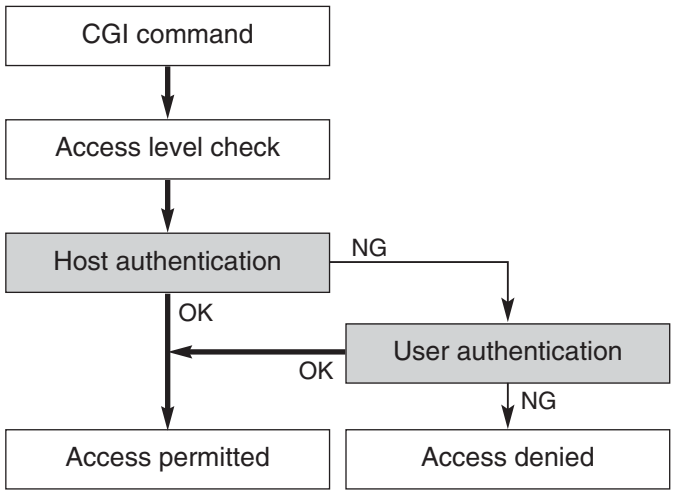
HOST page

Perform the settings on this page when restricting devices from accessing the encoder by using IP addresses.
It is possible to restrict access to the encoder by the "USER AUTHENTICATION" and the "HOST AUTHENTICATION".



Notes:

- Click the [SET] button to save the changed settings. Otherwise, the changed settings will not be saved.
- When using both the "USER AUTHENTICATION" and the "HOST AUTHENTICATION", access to the encoder will be restricted as below.



■ Item Descriptions

● HOST AUTHENTICATION

Select "ON" or "OFF" to set whether to apply the host authentication or not.
However, when using a web browser to perform the settings, it is necessary to be authenticated regardless of the "ON" or "OFF" setting.
The default setting is "OFF".

● SETUP

Up to 8 hosts can be registered. When a host is registered, it is displayed in the pull-down menu in the "DELETE" section on this page.
No host is registered at the default setting.

HOST IP ADDRESS/ SUBNET MASK

Enter the host IP address and the subnet mask of the devices allowed to access the encoder.
Based on the entered host IP address and subnet mask, the encoder calculates the valid address range.
The devices in this range are allowed to access the encoder.
For example, if "192.168.0.1" is entered for the "HOST IP ADDRESS" and "255.255.255.0" is entered for the "SUBNET MASK", the valid range will be "192.168.0.1" - "192.168.0.255".
The "HOST IP ADDRESS" and the "SUBNET MASK" can be set in the range of "0.0.0.0" to "255.255.255.255".

ACCESS LEVEL

Select one of the following for the access level.
1 (ADMINISTRATOR)
It is possible to perform the settings on the settings pages and operate the encoder using the CGI commands.
2 (CAMERA CONTROL)
It is possible only to operate the encoder using the CGI commands. It is not possible to perform the settings on the settings pages.

[ADD] button

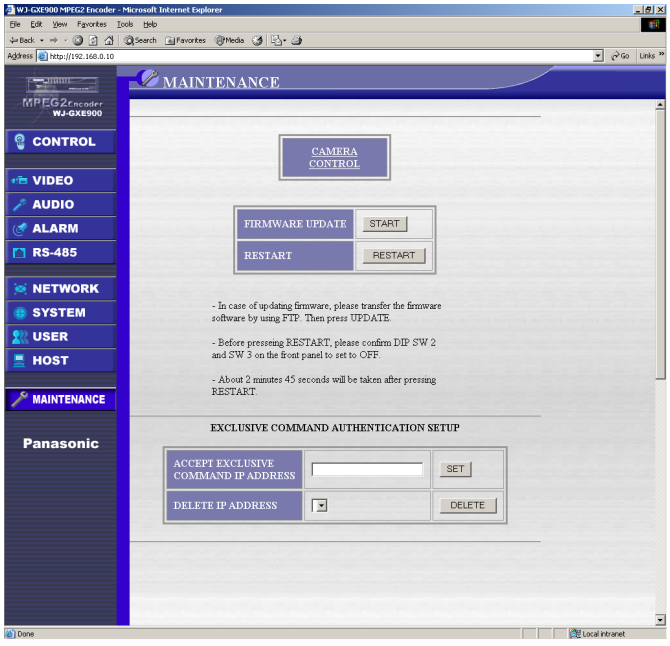
Click to add a host after entering the host information.

● DELETE

Select a host to be deleted from the pull-down menu, and click the [DELETE] button.
In the pull-down menu, IP addresses are displayed with their access level.
Confirm that the host has been deleted from the pull-down menu.

MAINTENANCE page

It is possible to confirm the angle of view of the camera connected to the encoder, to perform the camera control and to update the firmware of the encoder.



Note: The "EXCLUSIVE COMMAND" is the exclusive command to control the encoder.
The exclusive command is sent via TCP/IP or UDP/IP to the encoder and it makes possible to control cameras faster.
Refer to your dealer for further information.

■ Item Descriptions

CAMERA CONTROL

Click this link text to display the CAMERA CONTROL page.
On the CAMERA CONTROL page, it is possible to control the camera and to display the camera settings menus.

FIRMWARE UPDATE

Update the firmware of the encoder by executing the update files sent to the encoder in advance.
Refer to the next page for more information about the firmware update.

RESTART

Click the [RESTART] button to restart the encoder. It will take around 2 minutes and 45 seconds for the encoder to become operable after the [RESTART] button is clicked. During restart, it is impossible to operate the encoder.

■ EXCLUSIVE COMMAND AUTHENTICATION SETUP

ACCEPT EXCLUSIVE COMMAND IP ADDRESS

Enter the IP address of the device allowed to access the encoder and to enter the exclusive command.
If no IP address is entered, exclusive command will be accepted by the encoder from any device (even the host authentication setting will be ignored.)

DELETE IP ADDRESS

Select an IP address to be deleted from the pull-down menu, and click the [DELETE] button.
Confirm that the IP address has been deleted from the pull-down menu.

HOW TO UPDATE THE FIRMWARE

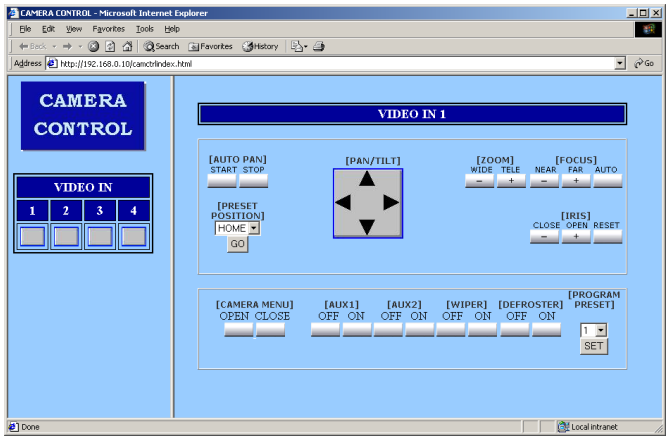
It is possible to update to the firmware of the encoder.

1. Acquire the file for update and copy it into the desired directory on the PC.
2. Transfer the file from the PC to the encoder.
   Follow the procedure below to transfer using the MS-DOS command.
   1. Start up the DOS prompt.
      - Except Windows XP
        [Start] – [Programs] – [Accessories] – [MS-DOS prompt]

      - In case of Windows XP
        [Start] – [Programs] – [Accessories] – [Command prompt]
   2. Connect to the encoder to be updated using the "ftp" command.
      Example: c: \ftp 192.168.0.10
   3. Enter a user name with the access level 1 (ADMINISTRATOR) and the respective password when authentication is required.
   4. Enter the "bin" command to change to the binary mode.
   5. Transfer the file for update to the encoder using the "put" command.
      Example: put (name of the file to be transferred)
   6. Confirm the file has been transferred by checking the file name using the "ls" command.
3. Click the [START] button to update the firmware on the MAINTENANCE page.
4. Click the [RESTART] button to restart the encoder.
   Access to the encoder after around 3 minutes then confirm the version of the firmware on the top page.

CAMERA CONTROL page

It is possible to control the camera or to display the camera picture on the monitor on this page.
It is also possible to display the settings menus of the camera and perform the settings.



Notes

- Depending on the connected camera, some functions may not be available.
  Refer to the operating instructions of the connected camera about its functions.
- Streaming video will be displayed on the monitor connected to the decoder. When the encoder is connected to the monitor directly, connect the monitor to the VIDEO OUT connector respective to the camera whose picture is to be monitored. (For example, to control the camera or to monitor the picture of the camera connected to the VIDEO IN 1 connector, connect the monitor to the VIDEO OUT 1 connector.)

■ Item Descriptions

VIDEO IN

Numbers of the VIDEO IN connectors on the rear panel of the encoder
It is possible to control the camera connected to the clicked VIDEO IN connector number.

AUTO PAN

START

The auto functions (AUTO PAN, SEQ, SORT, PATROL, etc.) set on the camera will be performed by clicking this button.
Depending on the camera, the functions using this button differ.
Refer to the operating instructions of the camera for further information.

STOP

The auto functions (AUTO PAN, SEQ, SORT, PATROL, etc.) set on the camera will be stopped by clicking this button.
They will be stopped also by clicking any other button.

Note: The auto functions are functions of the camera. It is impossible to operate an auto function if it is not set on the camera.

PRESET POSITION

The camera pans to the selected preset position when the [GO] button is clicked after selecting the HOME position or a preset position number from 1 to 64.
Depending on the camera, the selectable preset position numbers may differ.

Note: The preset function is a function of the camera. It is impossible to operate it if preset positions are not set on the camera.

PAN/TILT

The camera pans one step toward the clicked direction.
The rotation distance or speed vary depending on the camera.

ZOOM

Click the [WIDE] or [TELE] button to control the zoom lens of the camera.

Note: It is impossible to keep zooming by holding down the [WIDE] or [TELE] buttons.

SETTINGS MENUS OF THE ENCODER

FOCUS

Adjust the focus of the camera by clicking the [NEAR], [FAR] or [AUTO] buttons.

NEAR: Focusing on near objects

FAR: Focusing on far objects

AUTO: Focusing on objects in the center on the displayed area

Note: It is impossible to keep focusing by holding down the [NEAR] or [FAR] buttons.

IRIS

Adjust the iris of the camera by clicking the [CLOSE], [OPEN] or [RESET] buttons.

Generally, to shoot an object with a clear background or to shoot an object in a bright location, close the iris.

OPEN: The depth of the field becomes shallower by opening the iris.

CLOSE: The depth of the field becomes deeper by closing the iris.

RESET: The iris setting is reset to the default setting.

Note: It is impossible to keep adjusting the iris by holding down the [OPEN] or [CLOSE] buttons.

CAMERA MENU

OPEN: The setting menu of the camera will be displayed on the monitor connected to the decoder and the CAMERA MENU CONTROL page will appear on the monitor connected to the PC by clicking this button.

CLOSE: The settings menu of the camera will disappear from the monitor and the CAMERA MENU CONTROL page will be closed by clicking this button.

AUX1/AUX2

To activate an external device (AUX1/AUX2) connected to the camera housing or the receiver, select "ON".

To deactivate an external device (AUX1/AUX2), select "OFF".

When using a receiver, set the AUX1/AUX2 mode of the receiver to "Latch" mode. When "momentary" is selected, the receiver will not function correctly.

WIPER

To activate the wiper of the camera housing, select "ON".

To deactivate the wiper of the camera housing, select "OFF".

DEFROSTER

To activate the defroster of the camera housing, select "ON".

To deactivate the defroster of the camera housing, select "OFF".

PROGRAM PRESET

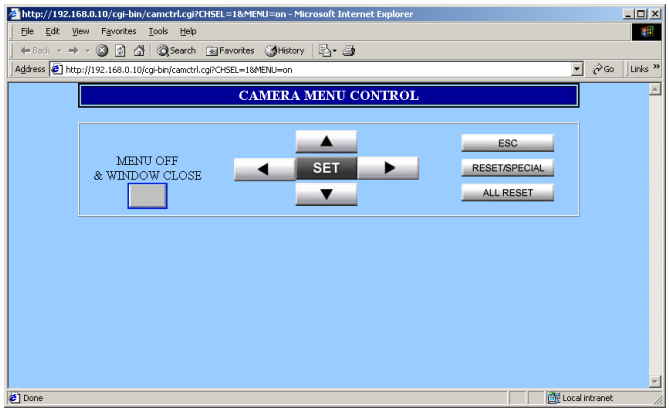
It is possible to register the displayed angle of view to the camera as a preset position.

To register it, select the desired preset position (HOME or 1 - 64) and click the [SET] button.

Note: It is impossible to register it if the camera does not have the preset function.

CAMERA MENU CONTROL page

Perform the camera control on this page.



Note: The camera settings menu will be displayed on the monitor connected to the decoder.
To connect the monitor to the encoder directly, connect the monitor to the VIDEO OUT connector respective to the camera to be set. (For example, to perform the settings for the camera connected to the VIDEO IN 1 connector, connect the monitor to the VIDEO OUT 1 connector.)

■ Item Descriptions

Click the following buttons to set the camera functions.

[MENU OFF & WINDOW CLOSE] button

It is possible to close the CAMERA MENU CONTROL page and the camera settings menu displayed on the monitor.

[▲], [▼], [◀], [▶] buttons

Move the cursor upward or downward using the [▲] or [▼] buttons.
Move the cursor to the left or to the right using the [◀] or [▶] buttons.

[SET] button

Validate the changed settings by clicking this button. When the selected item has a submenu, move to the submenu by clicking this button.

[ESC] button

Return to the upper level menu from the detailed settings menu or cancel the changed settings by clicking this button.

[RESET/SPECIAL] button

Return the setting of the selected item to the default setting or display the SPECIAL menu.
Operating procedures and functions differ depending on the camera.
Refer to the operating instructions of the camera for further information.

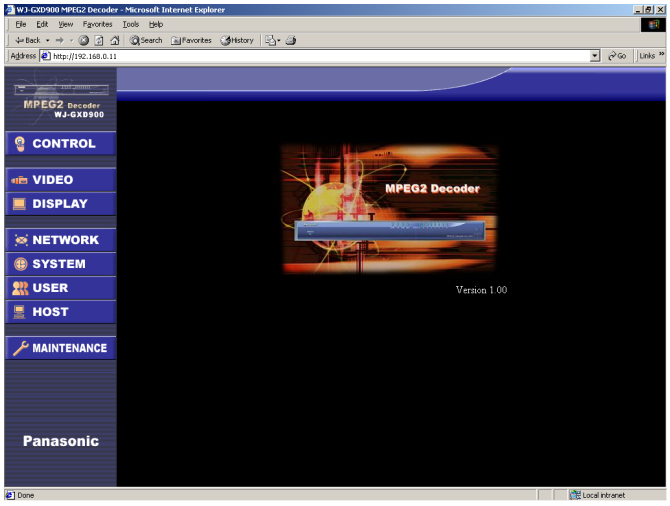
[ALL RESET] button

Return all the settings on the camera settings menu to the default settings (except for the settings of the preset registration).
The items that can be initialized and operating procedures differ depending on the camera.
Refer to the operating instructions of the camera for further information.

SETTINGS MENUS OF THE DECODER

To receive the motion pictures sent from the encoder, do the following.
Refer to a network administrator about the required network addresses (IP addresses, etc.).

1. Enter the IP address of the decoder in the address box of the web browser and press the Enter key.
   For example, enter the default IP address of the decoder "192.168.0.11" in the address box of the web browser.
   http://192.168.0.11/
   The top page will be displayed.



The top page of the decoder

2. Click a desired button in the left column on the top page.
   The authentication dialog window will be displayed.

Enter a user name whose access level is 1 (ADMINISTRATOR) and a password, and click the [OK] button.
If the entered user name and password are registered, the settings page will be displayed.

When no user is registered yet, enter the default user name (admin) and password (blank: enter nothing). (To register users, go to the USER page.)

When authenticated, the top page will be displayed again.
When authenticated once, the authentication dialog window will not be displayed by clicking the buttons in the left column until the web browser window is closed.

The items on the next page can be checked or changed on each settings page.
Click the [SET] button after changing the settings.

List of the Items on the Settings Pages of the Decoder

■ CONTROL/STATE page (page 68)

Confirming the status of the decoder and the receiving IP address and the receiving port number
Starting and stopping to decode video and audio data

■ VIDEO page (for each video output channel) (page 69)

Unicast/Multicast
Receiving IP address
Receiving port number
Latency buffer
Starting up the decoder automatically

■ DISPLAY page (page 71)

Camera number display
Camera title display
ON/OFF for date display
Display position
Character size
Character background color
Date display
Time display

■ NETWORK page (page 73)

IP address of the decoder
Subnet mask
Default gateway
DNS server (IP address)
MAC address (only for confirmation)
Transmission speed

■ SYSTEM page (page 74)

System mode
Video and audio decryption
NTP (Network Time Protocol)
Time and date
Device information
Main CPU mode setup
Note: The Main CPU mode is the advanced function for integrated control.

■ USER page (page 76)

ON/OFF for user authentication
User registration
User deletion

■ HOST page (page 77)

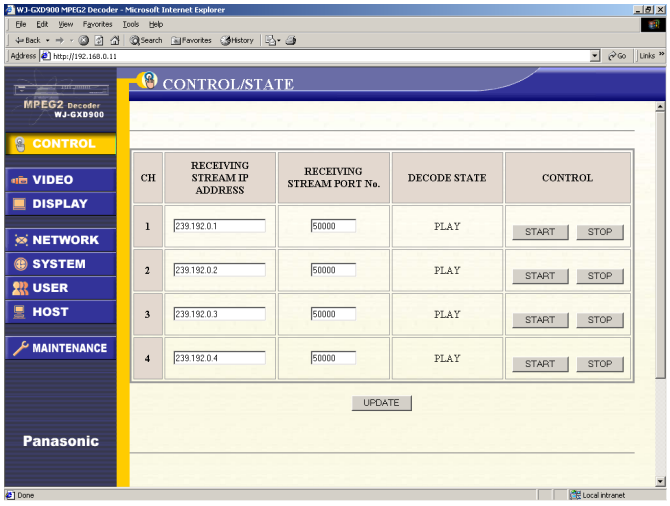
ON/OFF for host authentication
Host registration
Host deletion

■ MAINTENANCE page (page 79)

Firmware update
Restarting the decoder

SETTINGS MENUS OF THE DECODER

CONTROL/STATE page



Note: It is impossible to switch streaming video when using the unicast transmission.

■ Item Descriptions

CH

Numbers of the VIDEO OUT 1 - 4 connectors of the decoder

RECEIVING STREAM IP ADDRESS/RECEIVING STREAM PORT No.

Displaying the respective receiving stream IP addresses and receiving stream port numbers

The decoder will receive streaming video and audio data of the entered IP address (of the camera) sent from the encoder, and will display it on the monitor connected to the decoder.
It is possible to switch the received stream by clicking the [START] button after entering the IP address or the port number directly to the "RECEIVING STREAM IP ADDRESS" or "RECEIVING STREAM PORT No." input box respectively.

DECODE STATE

PLAY: Displayed while receiving streaming
STOP: Displayed when receiving stream has stopped

The decoding status can be checked by the STATUS indicators on the front panel of the decoder. (Refer to page 13.)

CONTROL

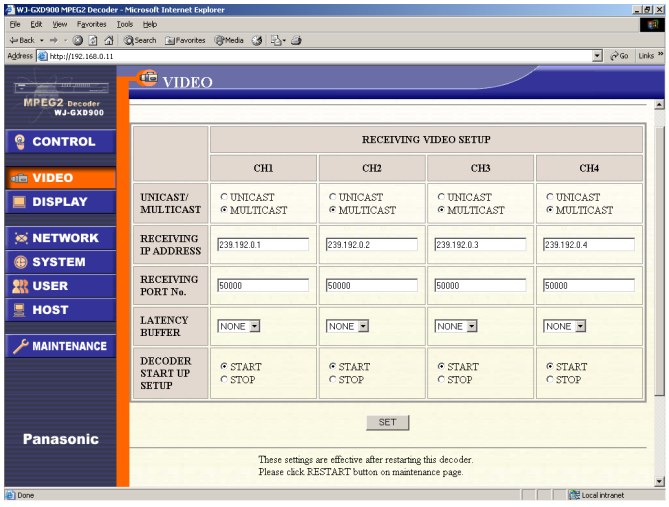
[START] button: Click this button to start decoding when the "DECODE STATE" is "STOP".
[STOP] button: Click this button to stop decoding when the "DECODE STATE" is "PLAY".

[UPDATE] button

Click this button to update the settings changed on the CONTROL/STATE page.

VIDEO page

Perform the settings of the VIDEO OUT connectors respectively. It is necessary to apply the same parameters (values) set on the VIDEO page of the encoder as the settings of the encoder for the settings on this menu.



Notes

- Click the [SET] button to save the changed settings. Otherwise, the changed settings will not be saved. When the settings are changed, restarting the decoder is necessary. The changed settings will be valid after restarting the decoder.
  Restarting the decoder can be performed on the MAINTENANCE page.
  Click the [MAINTENANCE] button in the left column to display the MAINTENANCE page, and click the [RESTART] button to restart the decoder.
- Do the following when changing the multicast transmission to the unicast transmission.
  Stop the streaming of the encoder before changing the settings of the decoder. Select "UNICAST" on this page after clicking the [STOP] buttons for all channels on the CONTRL/STATE page of the encoder.
  It is recommended to set the "RECEIVING STREAM IP ADDRESS" and "RECEIVING STREAM PORT No." as follows.
  CH1: IP address of the decoder/60000
  CH2: IP address of the decoder/60001
  CH3: IP address of the decoder/60002
  CH4: IP address of the decoder/60003
  Confirm that the "RECIVING STREAM IP ADDRESS" and the "RECEIVING STREAMING PORT No." for all the channels have the same IP addresses and the port number entered for the "DESTINATION IP ADDRESS" and "DESTINATION PORT No." on the VIDEO page of the encoder. After the confirmation, open the CONTROL/STATE page of the encoder and click the [START] buttons for all channels.
- Click the [START] button after changing the IP addresses for "RECEIVING STREAM IP ADDRESS" and port numbers for "RECEIVING STREAM PORT No." when changing the stream to be displayed on the monitor temporarily. Select how to receive the streaming video and audio from "UNICAST" or "MULTICAST".
  The default setting is "MULTICAST" for all channels.

■ Item Descriptions

CH1 - CH4

Numbers of the VIDEO OUT 1 - 4 connectors of the decoder

UNICAST/MULTICAST

Select how to receive the streaming video and audio from "UNICAST" or "MULTICAST".
The default setting is "MULTICAST" for all channels.

RECEIVING IP ADDRESS/RECEIVING PORT No.

The "DESTINATION IP ADDRESS" and the "DESTINATION PORT No." should be the same values entered for the "RECEIVING IP ADDRESS" and the "RECEIVING PORT No." of the decoder. If they are not the same, streams cannot be displayed on monitors connected to the decoder. 1024 to 65535 are available for the "DESTINATION IP ADDRESS".
The default settings of the "DESTINATION IP ADDRESS" and the "DETINATIONPORT No." for "CH1", "CH2", "CH3" and "CH4" are as follows.

CH1: 239.192.0.1/50000
CH2: 239.192.0.2/50000
CH3: 239.192.0.3/50000
CH4: 239.192.0.4/50000

When "UNICAST" is selected, refer to "Notes" in the left column on this page.

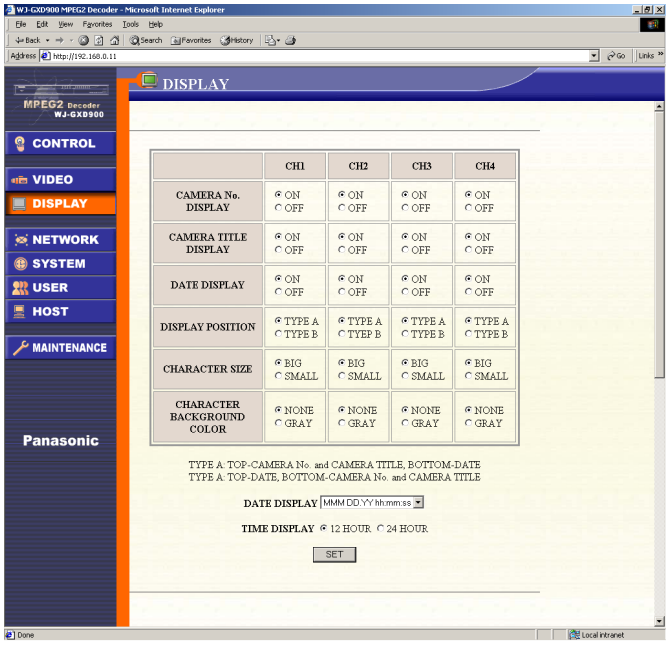
LATENCY BUFFER

Perform the setting for the latency buffer (size of which the internal memory of the decoder can absorb the transmission delay of the packets in the network).
When the bigger size is selected for the latency buffer, the transmission delay becomes longer.
If "NONE" is not selected, the video and audio may be disturbed when turning the power of the decoder on.
The default setting is "NONE".

DECODER START UP SETUP

Select "START" or "STOP" to set whether the decoder starts streaming video and audio data reception automatically or not after restarting or turning the power of the decoder on.
The default setting is "START" for all channels.

DISPLAY page



Notes

- Perform the setting for the camera numbers and the camera titles on the VIDEO page of the encoder.
- Click the [SET] button to save the changed settings. Otherwise, the changed settings will not be saved.

■ Item Descriptions

CAMERA No. DISPLAY

Select "ON" or "OFF" to display, or not display, the camera number and the camera title on the monitor.

ON: The camera number and the camera title will be displayed at either the top or the bottom of monitor according to the setting for "DISPLAY POSITION".

OFF: The camera number and the camera title will not be displayed.

The default setting is "ON".

DATE DISPLAY

Select "ON" or "OFF" to display, or not display, the time on the monitor.

ON: The time will be displayed at either the top or the bottom of monitor according to the setting for "DISPLAY POSITION".

OFF: The time will not be displayed.

Set the time to be displayed in the "DATE" input box on the SYSTEM page.

The default setting is "ON".

DISPLAY POSITION

Select how to display the time from the following.

TYPE A: The camera number and the camera title will be displayed at the top of the monitor, and the time at the bottom of monitor.

TYPE B: The time will be displayed at the top, and the camera number and the camera title at the bottom of monitor.

The default setting is "TYPE A".

CHARACTER SIZE

Select the size of characters displayed on the monitor.

BIG: The bigger size of characters will be displayed on the monitor.

SMALL: The smaller size of characters will be displayed on the monitor.

The default setting is "BIG".

CHARACTER BACKGROUND COLOR

Select how to display the background of the characters displayed on the monitor from the following.

NONE: The characters displayed on the monitor will be displayed without background color.

GRAY: The characters displayed on the monitor will be displayed in a gray color background.

The default setting is "NONE".

DATE DISPLAY

Select "TYPE A" or "TYPE B" to display the camera number, the camera title and the time on the top or the bottom of the monitor.

[YY/MM/DD hh:mm:ss]: Year/Month/Day Hour:Minute:Second

[DD/MM/YY hh:mm:ss]: Date/Month/Year Hour:Minute:Second

[MMM/DD/YY hh:mm:ss]: Month (3 characters)/ Day/Year Hour:Minute:Second

The default setting is "[MMM/DD/YY hh:mm:ss]".

TIME DISPLAY

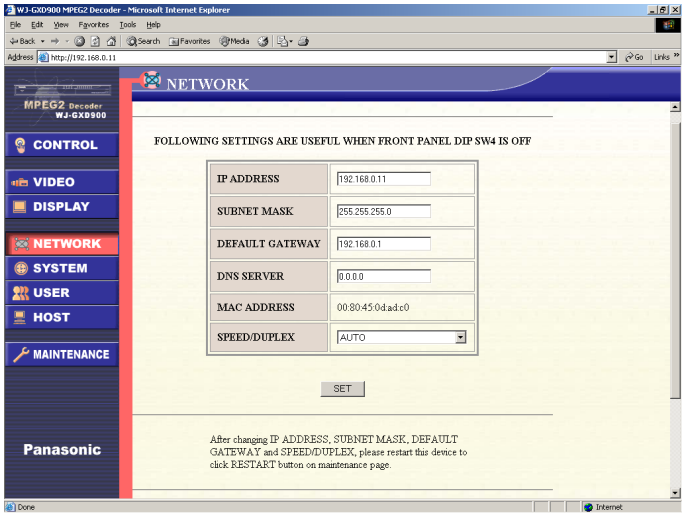
Select "12 HOUR" or "24 HOUR" to display the time.

12 HOUR: The time will be displayed in the 12-hour display.

24 HOUR: The time will be displayed in the 24-hour display.

The default setting is "12 HOUR".

NETWORK page



Note: It is necessary to restart the decoder to save the changed settings. Otherwise, the changed settings will not be saved. Restarting the decoder can be done on the MAINTENANCE page. Click the [MAINTENANCE] button in the left column to go to the MAINTENANCE page and click the [RESTART] button on the MAINTENANCE page. It will take around 2minutes for the decoder to become operable after the restart.

■ Item Descriptions

Perform the following settings after referring to a network administrator about the setting items.

IP ADDRESS

Enter the IP address of the decoder.
The default setting is "192.168.0.11".

SUBNET MASK

Enter the subnet mask of the decoder to connect to a network.
The default setting is "255.255.255.0".

DEFAULT GATEWAY

Enter the default gateway to connect to a network.
The default setting is "192.168.0.1".

DNS SERVER

Enter the IP address of the DNS server to connect to a network.
No IP address is entered as the default setting.

MAC ADDRESS

The MAC address of the decoder will be displayed.
It is impossible to change this value.

SPEED/DUPLEX

Select a transmission speed between the decoder and a network device such as a switching hub or a router from the following.

AUTO: Transmission speed will be automatically set.

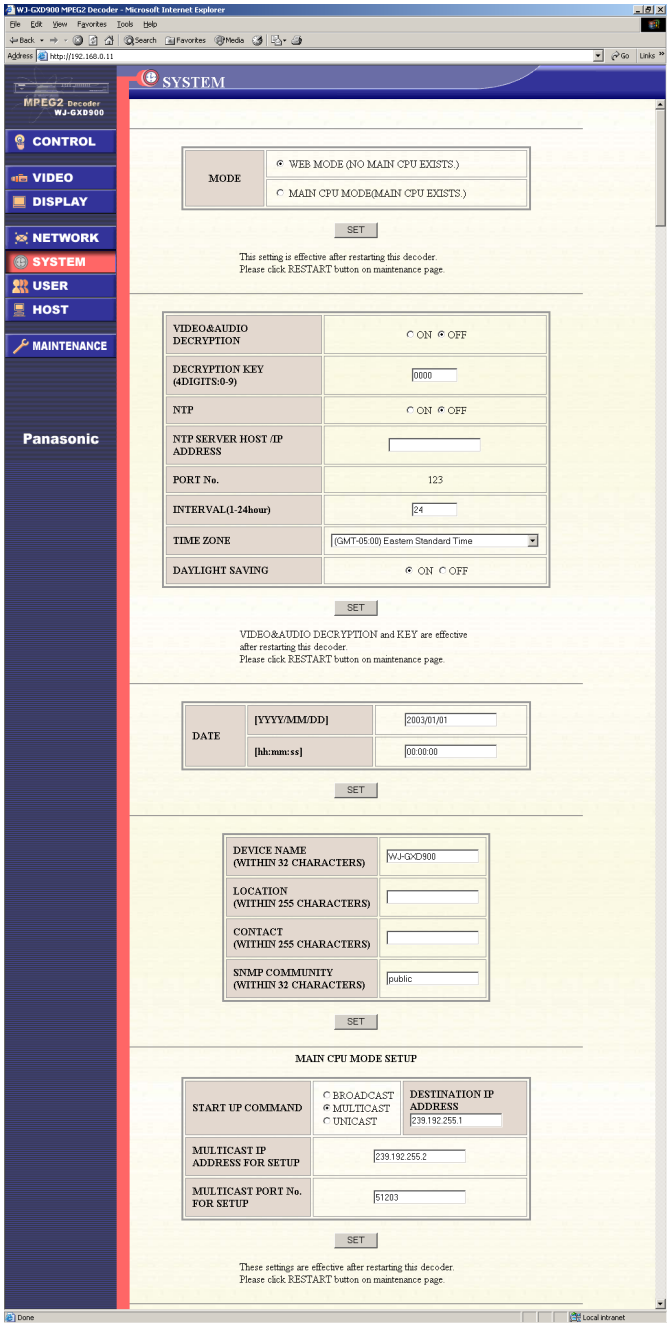
100BASE-TX FULL DUPLEX: Sending and receiving data will be performed simultaneously.

100BASE-TX HALF DUPLEX: Sending and receiving data will be performed alternately.

1000BASE-T: When selecting this, use an enhanced category 5 (STP (Shielded Twisted Pair)) cable to connected to the network.

SETTINGS MENUS OF THE DECODER

SYSTEM page



Notes

- The Main CPU mode is the advanced function for integrated control. There is no product on the market as of June 2003.
- Click the [SET] button to save the changed settings. Otherwise, the changed settings will not be saved.

■ Item Descriptions

MODE

The "MODE" will be decided according to the system environment.
When there is no Main CPU controlling the encoder and the decoder, select "WEB MODE (NO MAIN CPU EXISTS).
When there is a Main CPU controlling the encoder and the decoder, select "MAIN CPU MODE (MAIN CPU EXISTS).

WEB MODE (NO MAIN CPU EXISTS)

It is necessary to access respectively to the encoder and the decoder through the network using a web browser to perform the settings. The settings for the encoder and the decoder will be saved and the settings will be applied.

MAIN CPU MODE (MAIN CPU EXISTS)

The Main CPU mode is the advanced function for integrated control.

The default setting is "WEB MODE (NO MAIN CPU EXISTS)".

VIDEO&AUDIO DECRYPTION

Select "ON" or "OFF" to set whether to receive encrypted video and audio data or not.
When "ON" is selected, enter the "DECRYPTION KEY". When video and audio data is not encrypted by the encoder, select "OFF".
When changing this setting, it is necessary to restart the decoder.
The default setting is "OFF".

DECRYPTION KEY (4 DIGITS: 0 - 9)

Enter a number up to 4 digits for the decryption key code.
The default setting is "0000".

Important

- It is necessary to set the same key code to the encoder and the decoder. When the encryption key and the decryption key do not match, it is impossible to display the streaming video on the monitor connected to the decoder.
- If the decryption key is changed when "ON" is selected for "VIDEO&AUDIO DECRYPTION", blue pictures or video in the memory may be displayed.

NTP

NTP (Network Time Protocol) is the protocol to

match the current time by referring to an NTP server through a network.
Select "ON" or "OFF" to set whether to use the NTP or not.
When "ON" is selected, it is also necessary to set the following 4 items:

- NTP SERVER HOST/IP ADDRESS
- INTERVAL (1 - 24 hour)
- TIME ZONE
- DAYLIGHT SAVINGS

NTP SERVER HOST/IP ADDRESS

Enter a host name or an IP address of an NTP server.
When a host name is entered, it is necessary to enter the IP address of the DNS server in the "DNS SERVER" input box on the NETWORK page. Otherwise, the NTP will not function.
There is no default setting.

PORT No.

The port number (123) used to connect to the NTP server will be displayed.
It is impossible to change the port number on this setting.

INTERVAL (1 - 24 hour)

Set the interval time from 1 to 24 hour (1 hour internals) to refer to the NTP server.
The default setting is "24" (referring to the NTP server every 24 hours).

TIME ZONE

Set the time zone (GMT) of where the decoder is installed.
The default setting is "(GMT-05:00) Eastern Standard Time".

DAYLIGHT SAVINGS

Select "ON" or "OFF" to set whether to apply the summer time according to the area selected for "TIME ZONE".
When "ON" is selected, the clock is automatically advanced one hour in summer and is put back one hour in winter.
The default setting is "ON".

DATE

It is possible to set the time and date manually.
This setting is valid when "OFF" is selected for "NTP".
The displayed time and date is the time and date when this page is opened.
Enter time and date in the respective input boxes.
The valid time and date ranges are as follows.
[YYYY/MM/DD]
2003/01/01 - 2038/01/19
[hh:mm:ss]
00:00:00 - 23:59:59

The default settings are "2003/01/01" and "00:00:00" respectively.

Note: If these settings are performed, it is possible to be informed of the time and date of an alarm occurrence.
When "MAIN CPU MODE (MAIN CPU EXISTS)" is selected for "MODE", it is possible to select whether the time and date to be displayed on the monitor are the time and date set on the camera side or on the control side.

■ DEVICE NAME/ LOCATION/CONTACT/ SNMP COMMUNITY

Perform these settings only when using the SNMP (Simple Network Management Protocol).
Enter alphanumeric characters or punctuation marks except for the double quotation mark (") and the semicolon (;).

■ MAIN CPU MODE SETUP

When "MAIN CPU MODE (MAIN CPU EXISTS)" is selected for "MODE", it is necessary to set the items in this section.

START UP COMMAND

Depending on the network environment, select "BROADCAST", "MULTICAST" or UNICAST".
When "MULTICAST" or "UNICAST" is selected, enter also the "DESTINATION IP ADDRESS".
The entered IP address will be the destination IP address of the Main CPU receiving the start up command.
The default setting is "239.192.255.1".

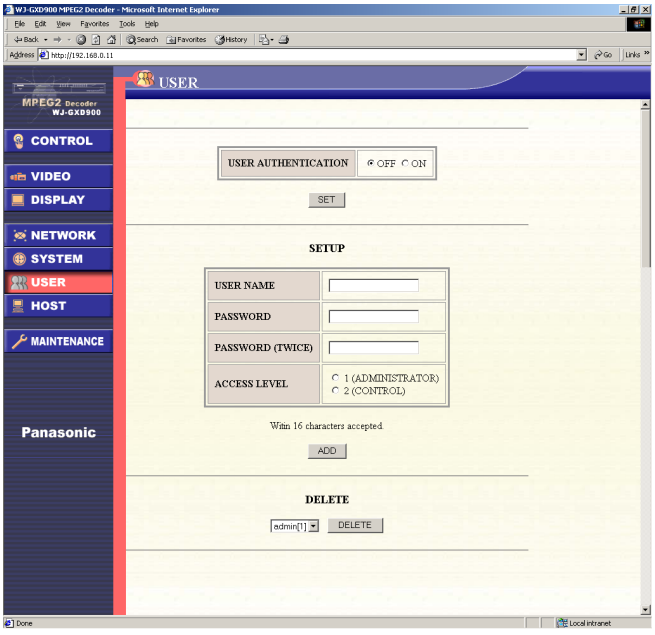
MULTICAST IP ADDRESS FOR SETUP/MULTICAST PORT No. FOR SETUP

Enter an IP address and a port number to receive the setup command from the Main CPU.
The default settings are "239.192.255.2" for the IP address and "51203" for the port number.

SETTINGS MENUS OF THE DECODER

USER page

Perform the setting to restrict users to access the decoder on this page.
It is possible to restrict access to the decoder by the "USER RESTRICTION" and the "HOST AUTHENTICATION".
Refer to the next page when using both the "USER RESTRICTION" and the "HOST AUTHENTICATION".



Notes

- The following user (administrator) is registered as default setting.
  USER NAME: admin
  PASSWORD: none (blank)
  ACCESS LEVEL: 1 (ADMINISTRATOR)
- It is impossible to delete the user "admin".
  It is possible to set a password for the user "admin". However, if the entered password is forgotten, it is necessary to reset all the settings to the default settings by setting the "SW2" switch on the front panel of the encoder to "ON".
  When the password is entered, write it down and keep it safely so as not to forget it.
- Click the [SET] button to save the changed settings. Otherwise, the changed settings will not be saved.

■ Item Descriptions

● USER AUTHENTICATION

Select "ON" or "OFF" to set whether to apply the user authentication or not.
However, when using a web browser to perform the settings, it is necessary to be authenticated regardless of the "ON" or "OFF" setting.
The default setting is "OFF".

● SETUP

Up to 16 users can be registered.
A registered user can be deleted using the "DELETE" pull-down menu in the section at the bottom of this page.

USER NAME/PASSWORD

Enter up to 16 alphanumeric characters for the user name and the password.
However, the colon (:) and the semicolon (;) cannot be used.

PASSWORD (TWICE)

Enter the password again for confirmation.

ACCESS LEVEL

Select one of the following for the access level.

1 (ADMINISTRATOR)

It is possible to perform the settings on the settings pages and operate the decoder using the CGI commands.

2 (CONTROL)

It is possible only to operate the decoder using the CGI commands. It is not possible to perform the settings on the settings pages.

Note: The monitor control is performed by the CGI command. It is possible to select whether to display 4 streams on a single screen (QUAD) or to display one of the 4 streams (CH1 - CH4) on a monitor. (Refer to page 107.)

[ADD] button

Click to add a user after entering the user information.

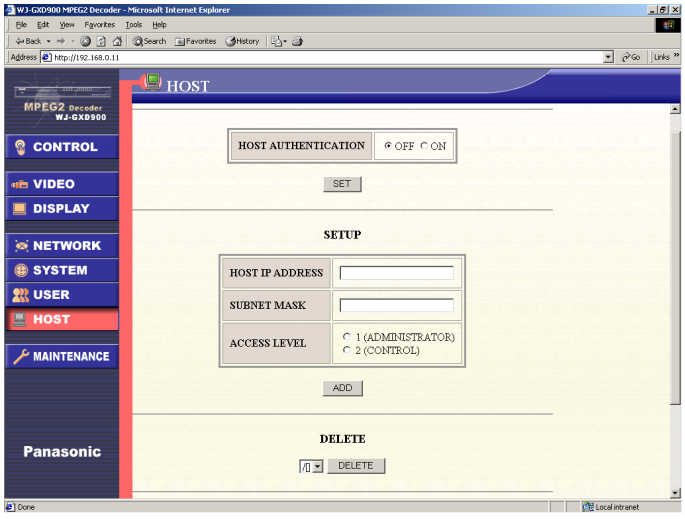
● DELETE

Select a user to be deleted from the pull-down menu, and click the [DELETE] button.
Confirm that the user has been deleted from the pull-down menu.

Note: To set the password for the default user "admin", enter "admin" in the "USER NAME" input box, and the password in the "PASSWORD" and "PASSWORD (TWICE)" input boxes.
The access level setting will be fixed to "1 (ADMINISTRATOR)".

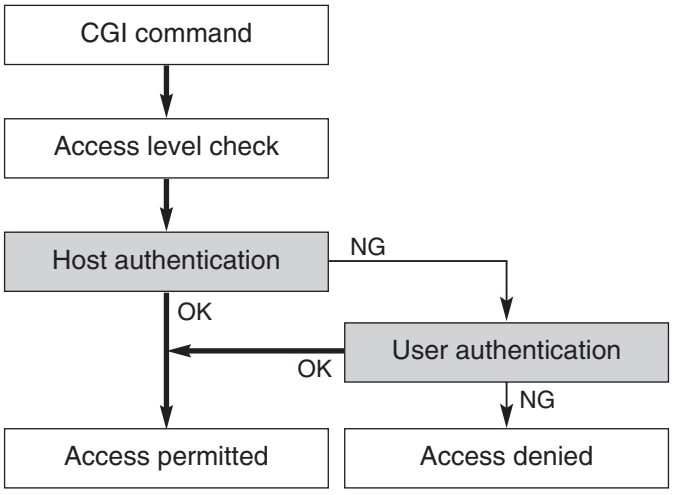
HOST page

Perform the setting to restrict hosts (IP addresses) to access the decoder on this page.
It is possible to restrict access to the decoder by the "USER RESTRICTION" and the "HOST AUTHENTICATION".



Notes:

- Click the [SET] button to save the changed settings. Otherwise, the changed settings will not be saved.
- When using both the "USER AUTHENTICATION" and the "HOST AUTHENTICATION", access to the encoder will be restricted as below.



■ Item Descriptions

● HOST AUTHENTICATION

Select "ON" or "OFF" to set whether to apply the host authentication or not.
However, when using a web browser to perform the settings, it is necessary to be authenticated regardless of the "ON" or "OFF" setting.
The default setting is "OFF".

● SETUP

Up to 8 hosts can be registered. When a host is registered, it is displayed in the pull-down menu in the "DELETE" section on this page.
No host is registered at the default setting.

HOST IP ADDRESS/ SUBNET MASK

Enter the IP address and the subnet mask of the devices allowed to access the decoder.
Based on the entered IP address and subnet mask, the decoder calculates the valid address range.
The devices in this range are allowed to access the decoder.
For example, if "192.168.0.1" is entered for the "HOST IP ADDRESS" and "255.255.255.0" is entered for the "SUBNET MASK", the valid range will be "192.168.0.1" - "192.168.0.255".
The "HOST IP ADDRESS" and the "SUBNET MASK" can be set in the range of "0.0.0.0" to "255.255.255.255".

ACCESS LEVEL

Select one of the following for the access level.

1 (ADMINISTRATOR)

It is possible to perform the settings on the settings pages and operate the decoder using the CGI commands.

2 (CONTROL)

It is possible only to operate the decoder using the CGI commands. It is not possible to perform the settings on the settings pages.

[ADD] button

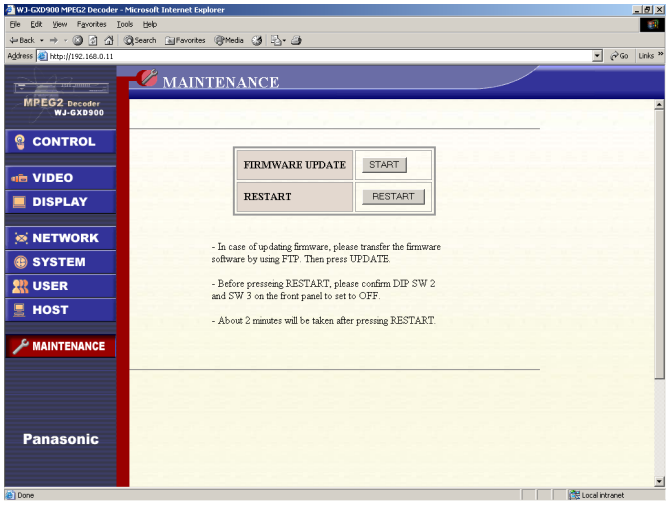
Click to add a host after entering the host information.

● **DELETE**

Select a host to be deleted from the pull-down menu, and click the [DELETE] button.
Confirm that the host has been deleted from the pull-down menu.

MAINTENANCE page

It is possible to update the firmware of the decoder or restart the decoder.



■ Item Descriptions

FIRMWARE UPDATE

Update the firmware of the decoder by executing the update files sent to the decoder in advance.
Refer to the following for more information about the firmware update.

RESTART

Click the [RESTART] button to restart the decoder. It will take around 2 minutes for the decoder to become operable after the [RESTART] button is clicked.
During restart, it is impossible to operate the decoder.

HOW TO UPDATE THE FIRMWARE

It is possible to update to the firmware of the decoder.

1. Acquire the file for update and copy it into the desired directory on the PC.
2. Transfer the file from the PC to the decoder.
   Follow the procedure below to transfer using the MS-DOS command.
   1. Start up the DOS prompt.
      • Except Windows XP
      [Start] – [Programs] – [Accessories] – [MS-DOS prompt]
      • In case of Windows XP
      [Start] – [Programs] – [Accessories] – [Command prompt]
   2. Connect to the decoder to be updated using the "ftp" command.
      Example: c: \ftp 192.168.0.11
   3. Enter a user name with the access level 1 (ADMINISTRATOR) and the respective password when authentication is required.
   4. Enter the "bin" command to change to the binary mode.
   5. Transfer the file for update to the decoder using the "put" command.
      Example: put (name of the file to be transferred)
   6. Confirm the file has been transferred by checking the file name using the "ls" command.
3. Click the [START] button to update the firmware on the MAINTENANCE page.
4. Click the [RESTART] button to restart the decoder.

TROUBLESHOOTING

Before asking for repairs, please check the following symptoms.

If the solutions below do not solve the problem or the symptom is not listed below, ask at the shop where you purchased the appliances.

Symptom	Possible cause / Possible solution	Reference page
The power cord insulation is damaged.	• The power cord, connectors or the power plug are damaged. If you continue to use it, a fire or an electric shock may occur. Unplug the power plug immediately, and refer servicing of the plug to qualified service personnel.	
The power cord, connectors or the power plug are hot during use.		
The power cord gets warm or hot if bent or pulled during use.		
Power is not supplied.	• Is the power cord connected correctly? Is the power plug firmly plugged into an outlet? Insert the power plug firmly into an outlet.	–
The encoder/decoder does not start up normally after turning the power on.	• Are the dip switches on the front panel set correctly? Set the dip switches on the front panel correctly. Be sure to set unused dip switches to OFF.	10, 13
	• It is possible that an IP address has not been assigned from the DHCP server even if the DHCP server is used. Confirm that the DHCP server is running correctly.	–
	• When the decoder is restarted while receiving streaming video by the unicast transmission, it may take more than 10 minutes for the decoder to display streaming video.	22
The OPERATE indicator is blinking (BLINKING TEMPERATURE WARNING).	• The temperature inside the encoder/decoder is beyond the specified temperature. Are the ventilation openings or the cooling fan slots blocked by dust, etc.? In this case, remove dust around the ventilation openings or the cooling fan slots. When the OPERATE indicator still blinks after turning off the power and leaving the unit for a while, a malfunction of the cooling fan may have occurred. Refer to your dealer.	27

Symptom	Possible cause / Possible solution	Reference page
• Network troubles		
The LINK1 indicator does not light.	• Is the Ethernet cable connected to the Ethernet port (100BASE-TX)? Insert the cable firmly until a click is heard.	–
	• Is the correct cable (straight or cross) being used? Use the straight cable when connecting the unit to a switching hub or router. Use the cross cable when cascading two switching hubs. When using a switching hub with the cascading port, refer to the operating instructions of the switching hub.	–
	• Are the pins inside the connector contacting or shorting? Check the pins.	–
	• Is the cable length per a segment longer than the recommended cable length? Use proper network cables according to the transmission speed and shorter than 100 m.	–
• It is impossible to access the settings pages of the encoder/decoder from the browser		
When the encoder and the decoder are connected in the same subnet (network)	• Have the encoder and the decoder been assigned the same subnet mask? When the encoder and the decoder are connected in the same network, the same subnet mask should be assigned. (For example, 255.255.255.0) • When they are in different networks, refer to the network administrator and set the subnet mask correctly.	56, 73
It is impossible to access the setting pages though pictures can be displayed.	• It is necessary to set the default gateway correctly to access from different networks (subnets). Refer to the network administrator for the default gateway address and confirm that the settings on the NETWORK page of the decoder have been set correctly. • The gateway address should be assigned based on the IP address of the encoder. Refer to the network administrator and perform the settings.	56, 73

Symptom	Possible cause / Possible solution	Reference page
Are the IP addresses set correctly?	• Is "IP ADDRESS" on the NETWORK page set correctly? The private address should be in the following range: "10.0.0.0" - "10.255.255.255", "192.168.0.0" - "192.168.255.255" Refer to the network administrator for the IP address available for global address.	56, 73
	• Is the same IP address assigned to other devices? Check for devices assigned incorrectly.	56, 73
	• Are you connecting to the wrong IP address? • Is the same subnet set when both sides are connected in the same subnet (network)? Confirm the connection as follows: Open the command prompt on your PC (meeting the system requirements described on page 8) and enter: > ping (enter here the IP address set for the encoder/decoder) If the encoder/decoder replies, hardware, protocol and network are functioning normally. Otherwise, check the subnet and the default gateway, and perform the address settings again.	–

• Video troubles

Delays during streaming transmission happen too frequently.	• Are too many packets being sent to the network beyond the network's capacity? Check the traffic of the network or the amount of packets using the LAN analyzer. Refer to the network administrator or the network engineer for further information.	–
The motion picture freezes (a still picture is displayed).	• Is a temporary network trouble (a broken wire, connection trouble, etc.) occurring? When temporary software trouble occurs, it will be recovered automatically. Depending on the status of the trouble, communication might be disconnected. In this case, try to connect again. If this happens frequently, reconsider the network connections.	–
The image is not displayed while the STATUS 1 - 4 indicators of the encoder are blinking.	• Is the selected camera connected to the VIDEO IN connector correctly? • Confirm that the camera and the VIDEO IN connector of the encoder are corrected correctly.	12

Symptom	Possible cause / Possible solution	Reference page
The image is not displayed while the STATUS 1 - 4 indicators of the encoder are lit and the STATUS 1 - 4 indicators of the decoder are blinking.	• Are "RECEIVING IP ADDRESS" and "RECEIVING PORT No." of the decoder set correctly to receive streaming video and audio data? Check "DESTINATION IP ADDRESS" and "DESTINATION PORT No." on the VIDEO page of the encoder, and set the same values for "RECEIVING IP ADDRESS" and "RECEIVING PORT No." of the decoder. To confirm temporarily, click the [START] button after entering a value on the CONTROL/STATE page of the decoder.	44, 68, 69
The STAUS 1 - 4 indicators of the encoder are not lit.	• The encoder may be down. Check the status of the encoder on the CONTROL/STATE page. When the status is "STOP", click the [START] button.	43
The image is not displayed while the STATUS 1 - 4 indicators of the decoder are not lit.	• The decoder may be down. Check the status of the decoder on the CONTROL/STATE page. When the status is "STOP", click the [START] button.	68
The image is not displayed while the STATUS 1 - 4 indicators of the both the encoder and decoder are lit.	• Is the monitor connected correctly? Confirm that the monitor is connected to the VIDEO OUT connector of the decoder.	15
The image is not displayed correctly.	• Are there noise influences caused by power grounding, case grounding or cable shield wear? When not using groundings or shielded cables (STP cable, etc.), noise influences may easily occur. Use groundings or shielded cables.	–
	• Is the encoder/decoder installed in a place subject to high-frequency noise? When installed near fluorescent lamps, a transformer or a CRT monitor, it may have influences by high-frequency noise. In this case, install the encoder/decoder away from such devices.	–
	• Are the cables connected to the encoder/decoder wired along with high-voltage power cables, etc.? When the cables are wired within 10 cm from high-voltage power cables, etc., there might be noise influences. Wire the cables more than 10 cm away from high-voltage power cables, etc. or wire them separately.	–

Symptom	Possible cause / Possible solution	Reference page
The image is disturbed (drop frame, etc.).	• Is a temporary network trouble (a broken wire, connection trouble, etc.) occurring? When temporary software trouble occurs, it will be recovered automatically. Depending on the status of the trouble, communication might be disconnected. In this case, try to connect again. If this happens frequently, reconsider the network connections.	–
	• Transmission delay may have occurred on the network. Perform the setting of "LATENCY BUFFER" on the VIDEO page of the decoder properly.	70

• Audio troubles

Audio fragmentation occurs.	• Is a temporary network trouble (breaking of wire, connection trouble, etc.) occurring? When temporary software trouble occurs, it will be recovered automatically. Depending on the status of the trouble, communication might be disconnected. In this case, try to connect again. If this happens frequently, reconsider the network connections.	–
No audio.	• Is the audio device connected to the AUDIO OUT connector correctly? Connect the audio input connector of a monitor or speakers to the AUDIO OUT connector of the decoder correctly.	15
	• Do the audio input and output levels match? The AUDIO IN/OUT connectors of the encoder/decoder are the LINE IN/OUT. It is necessary to connect the microphone amplifier and the speaker amplifier.	–
	• Is the setting for "AUDIO INPUT" of the AUDIO page of the encoder set to "OFF"? Check the settings on the AUDIO page of the encoder.	46
	• Is the audio received by the decoder muted? Release muting.	106

HOW TO USE THE CGI COMMANDS

The HTTP (Hyper Text Transfer Protocol) is used to control the encoder and decoder. The following can be controlled:

- Camera control
- Camera settings menus control
- Switching streaming video
- Controlling start / stop of the encoder
- Controlling start / stop of the decoder
- Displaying the status of the encoder
- Displaying the status of the decoder
- Controlling the bit rate of streaming video and audio data
- Resetting the alarm / Displaying the alarm status
- Displaying the contact input status
- Displaying the video loss status
- Muting the audio
- Multiscreen display
- Controlling the contact output
- Changing the system mode
- Time and date setting
- Restarting the encoder / decoder
- Updating

CAMERA CONTROL

When a Panasonic combination camera (WV-CW860, WV-CS850, etc.) or a pan-tilt head is connected to the VIDEO IN connector of the encoder, it is possible to control the camera using the CGI commands.

■ Format

http://(IP address of the encoder)/cgi-bin/camctrl.cgi?CHSEL=(parameter value)&(parameter name)=(parameter value)&...&(parameter name)=(parameter value)

■ Response

HTTP /1.1 204 No Content $^{CR}_{LF}$

Cache-Control: no-cache $^{CR}_{LF}$

Content-Type: text/plain $^{CR}_{LF}$

Content-Length: 0 $^{CR}_{LF}$

$^{CR}_{LF}$

■ Item List

Item	Parameter name	Parameter value	Description
Video input channel	CHSEL	1 - 4	To designate VIDEO IN to be controlled
Preset position	PRESET	0 - 64	To move to a preset position set in advance 0: Home position 1 - 64: Preset position
Horizontal control of the pan-tilt head	PAN	–10 - –1 1 - 10	To move left To move right
Vertical control of the pan-tilt head	TILT	–10 - –1 1 - 10	To move downward To move upward
Lens	ZOOM	–10 - –1 1 - 10	To move to WIDE To move to TELE It will take around 30 ms for one step increment or decrement of the FOCUS parameter to adjust focusing.
Auto pan control	ATPAN	on, off	To start/stop auto pan.
Auto focus control	AF	on	Auto focus
Focus control	FOCUS	–10 - –1 1 - 10	NEAR FAR It will take around 60 ms for one step increment or decrement of the ZOOM parameter to adjust zooming.

Item	Parameter name	Parameter value	Description
Iris control	IRIS	–10 - –1 0 1 - 10	CLOSE RESET OPEN It will take around 60 ms for one step increment or decrement of the IRIS parameter to adjust the iris.
Defroster control	DEF	on, off	
Wiper control	WIPER	on, off	
AUX1 output control	AUX1	on, off	
AUX2 output control	AUX2	on, off	

■ Important Notices

- It is necessary to enter the parameter value for the "CHSEL" parameter.
- When controlling the pan-tilt head, it is necessary to enter the parameter value for both the vertical control (TILT) and the horizontal control (PAN).
  For example, to move the camera connected to the VIDEO IN 1 connector to the left, enter:
  http:///(IP address of the encoder)/cgi-bin/camctrl.cgi?CHSEL=1&PAN=-4&TILT=0

■ Examples

1. To move the pan-tilt head connected to the VIDEO IN 1 connector upward
   http://192.168.0.10/cgi-bin/camctrl.cgi?CHSEL=1&PAN=0&TILT=4
2. To zoom out (WIDE) the camera connected to the VIDEO IN 2 connector
   http://192.168.0.10/cgi-bin/camctrl.cgi?CHSEL=2&ZOOM=-2
3. To start auto pan of the pan-tilt head connected to the VIDEO IN 3 connector
   http://192.168.0.10/cgi-bin/camctrl.cgi?CHSEL=3&ATPAN=on
4. To set the focus of the camera connected to the VIDEO IN 4 connector to NEAR
   http://192.168.0.10/cgi-bin/camctrl.cgi?CHSEL=4&FOCUS=-2
5. To close the iris of the camera connected to the VIDEO IN 1 connector
   http://192.168.0.10/cgi-bin/camctrl.cgi?CHSEL=1&IRIS=-1
6. To set the wiper of the camera connected to the VIDEO IN 2 connector to ON
   http://192.168.0.10/cgi-bin/camctrl.cgi?CHSEL=2&WIPER=on
7. To set the AUX 1 of the camera connected to the VIDEO IN 3 connector to OFF
   http://192.168.0.10/cgi-bin/camctrl.cgi?CHSEL=3&AUX1=off

CAMERA SETTINGS MENUS CONTROL

When a Panasonic camera is connected to the VIDEO IN connector of the encoder, it is possible to control the camera settings menus using the CGI commands.

■ Format

http://(IP address of the encoder)/cgi-bin/camctrl.cgi?CHSEL=(Parameter value)&(parameter name)=(parameter value)

■ Response

HTTP /1.1 204 No Content $^{CR}_{LF}$

Cache-Control: no-cache $^{CR}_{LF}$

Content-Type: text/plain $^{CR}_{LF}$

Content-Length: 0 $^{CR}_{LF}$

$^{CR}_{LF}$

■ Important Notice

It is necessary to enter the parameter value for the "CHSEL" parameter.
The parameter name should be used in combination with the "CHSEL" parameter.

■ Control Item List

Item	Parameter name	Parameter value	Description
VIDEO IN connector number	CHSEL	1 - 4	To designate the VIDEO IN connector number to be controlled
Menu display	MENU	on	To designate the menu to be displayed
		off	To designate the menu to be closed
Move the cursor upward	UP	1	
Move the cursor downward	DOWN	1	
Move the cursor to the left	LEFT	1	
Move the cursor to the right	RIGHT	1	
Change the camera menu	SET	set	To move to the lower level
		esc	To move to the higher level
	RESET	set	To reset
		reset	To reset all

■ Examples

1. To display the menu of the camera connected to the VIDEO IN 1 connector
   http://192.168.0.10/cgi-bin/camctrl.cgi?CHSEL=1&MENU=on
2. To move the cursor on the menu of the camera connected to the VIDEO IN 2 connector downward
   http://192.168.0.10/cgi-bin/camctrl.cgi?CHSEL=2&DOWN=1

HOW TO USE THE CGI COMMANDS

SWITCHING STREAMING VIDEO

When using the multicast transmission, it is possible to switch the streaming video displayed on the monitor using the following CGI commands. When using the unicast transmission, change the settings on the VIDEO page.

■ Format

http://(IP address of the decoder)/control4?decode=start&ch=(parameter value)&address=(parameter value)&enc_addr=(parameter value)&enc_ch=(parameter value)

■ Response

HTTP /1.1 200 OK $^{CR}_{LF}$

Cache-Control: no-cache $^{CR}_{LF}$

Content-Type: text/plain $^{CR}_{LF}$

Content-Length: XX $^{CR}_{LF}$ (Store the octet number of the Message-Body decimally)

$^{CR}_{LF}$

OK or NG

■ Important Notices

- It is necessary to enter "decode=start& ch=(parameter value)&address=(parameter value)".
- When not designating "enc_addr=(parameter value)&address=(parameter value)", it will take up to 500 ms to switch streams. To switch streams smoothly, request the first stream to the encoder. In this way, it will take within 150 ms to switch streams.

■ Control Item List

Item	Parameter name	Parameter value	Description
Start decoding	decode	start	Identifier to start decoding
VIDEO OUT connector number	ch	01 - 04	To designate the VIDEO OUT connector number to be switched
RECEIVING IP ADDRESS / PORT No.	address	a.a.a.a:p	a=decimal number from 0 - 255, p=decimal number from 1024 - 65535 Insert a colon (:) between IP address and port number.
IP address of the encoder	enc_addr	0.0.0.0 - 255.255.255.255	To request the first stream to the encoder which sends the streaming data
Channel number (of the encoder) which sends the streaming data	enc_ch	01 - 04	To designate the VIDEO IN number connector to be switched

■ Example

1. To output the image from the VIDEO IN 3 connector (destination IP address: 239.192.0.3; port number: 50000) of the encoder by the VIDEO OUT 1 connector (multicast transmission)

   http://192.168.0.11/control4?decode=start&ch=01&address=239.192.0.3:50000&enc_addr=192.168.0.10&enc_ch=03

HOW TO USE THE CGI COMMANDS

CONTROLLING START /STOP OF THE ENCODER

Start and stop the transmission of streaming video and audio data from the encoder.

■ Format

● Start encoding (Streaming transmission)

http://(IP address of the encoder)/control4?encode=start&ch=(parameter value)

● Stop encoding (Stop streaming transmission)

http://(IP address of the encoder)/control4?encode=end&ch=(parameter value)

■ Response

HTTP /1.1 200 OK $^{CR}_{LF}$
Cache-Control: no-cache $^{CR}_{LF}$
Content-Type: text/plain $^{CR}_{LF}$
Content-Length: XX $^{CR}_{LF}$ (Store the octet number of the Message-Body decimally)
$^{CR}_{LF}$
OK or NG

■ Important Notice

- "encode=start&ch=(Parameter value)" or "encode=end&ch=(Parameter value)" **(Required)**

■ Control Item List

● Start encoding

Item	Parameter name	Parameter value	Description
Start encoding	encode	start	Identifier to start decoding
VIDEO IN connector number	ch	01 - 04	Select a VIDEO IN connector number which starts encoding

● Stop encoding

Item	Parameter name	Parameter value	Description
Stop encoding	encode	end	Identifier to stop decoding
VIDEO IN connector number	ch	01 - 04	Select a VIDEO IN connector number (01 - 04) which stops encoding

■ Examples

1. To start streaming transmission from the VIDEO IN 1 connector (start encoding)
   http://192.168.0.10/control4?encode=start&ch=01
2. To stop streaming transmission from the VIDEO IN 2 connector (stop encoding)
   http://192.168.0.10/control4?encode=end&ch=02

CONTROLLING START / STOP OF THE DECODER

Start and stop the reception of the streaming video and audio data by the decoder. When receiving streaming video and audio data after starting decoding, images will be displayed on the monitor and audio will be output. When stopping decoding, blue pictures will be displayed on the monitor and audio will not be output.

■ Format

● Start decoding (Streaming transmission)

http://(IP address of the decoder)/control4?decode=start&ch=(parameter value)&address=(parameter value)

● Stop decoding (Stop streaming transmission)

http://(IP address of the decoder)/control4?decode=end&ch=(parameter value)&address=(parameter value)

■ Response

HTTP /1.1 200 OK $^{CR}_{LF}$
Cache-Control: no-cache $^{CR}_{LF}$
Content-Type: text/plain $^{CR}_{LF}$
Content-Length: XX $^{CR}_{LF}$ (Store the octet number of the Message-Body decimally)
$^{CR}_{LF}$
OK or NG

■ Important Notice

- "decode=start&ch=(Parameter value)" or "decode=end&ch=(Parameter value)" **(Required)**

■ Control Item List

● Start decoding

Item	Parameter name	Parameter value	Description
Start decoding	decode	start	Identifier to start decoding
VIDEO OUT channel	ch	01 - 04	Select a VIDEO OUT channel which starts decoding.
RECEIVING IP ADDRESS/PORT No.	address	a.a.a.a:p	a=decimal number from 0 - 255, p=decimal number from 1024 - 65535 Insert a colon (:) between IP address and port number.

● Stop decoding

Item	Parameter name	Parameter value	Description
Stop decoding	decode	end	Identifier to stop decoding
VIDEO OUT connector number	ch	01 - 04	Select a VIDEO OUT connector number (01 - 04) which stops decoding.

■ Examples

1. To start displaying images from the VIDEO OUT 1 connector (start decoding)
   http://192.168.0.11/control4?decode=start&ch=01&address=239.192.0.1:50000
2. To stop displaying images from the VIDEO OUT 2 connector (stop decoding)
   http://192.168.0.11/control4?decode=end&ch=02

HOW TO USE THE CGI COMMANDS

DISPLAYING THE STATUS OF THE ENCODER

Displays the status of the encoder.

■ Format

http:///(IP address of the encoder)/control4?status=get

■ Response

HTTP /1.1 XXXXXXXXXXXX $^{CR}_{LF}$
Cache-Control: no-cache $^{CR}_{LF}$
Content-Type: text/plain $^{CR}_{LF}$
Content-Length: XX $^{CR}_{LF}$ (Store the octet number of the Message-Body decimally)
$^{CR}_{LF}$
PLAY1:xxx.xxx.xxx.xxx:yyyyy $^{CR}_{LF}$ (Status of CH1)
or
STOP1:xxx.xxx.xxx.xxx:yyyyy $^{CR}_{LF}$
$^{CR}_{LF}$
PLAY2:xxx.xxx.xxx.xxx:yyyyy $^{CR}_{LF}$ (Status of CH2)
or
STOP2:xxx.xxx.xxx.xxx:yyyyy $^{CR}_{LF}$
$^{CR}_{LF}$
PLAY3:xxx.xxx.xxx.xxx:yyyyy $^{CR}_{LF}$ (Status of CH3)
or
STOP3:xxx.xxx.xxx.xxx:yyyyy $^{CR}_{LF}$
$^{CR}_{LF}$
PLAY4:xxx.xxx.xxx.xxx:yyyyy (Status of CH4)
or
STOP4:xxx.xxx.xxx.xxx:yyyyy

xxx.xxx.xxx.xxx: Video stream IP address (xxx：0 - 255)

yyyyy: DESTINATION PORT No. (1024 - 65535)

PLAY: Encoder is active

STOP: Enoder is not active

■ Example

1. To display the status of the encoder

    http://192.168.0.10/control4?status=get

    Response
    PLAY1:239.192.0.1:50000
    PLAY2:239.192.0.2:50000
    PLAY3:239.192.0.3:50000
    PLAY4:239.192.0.4:50000

DISPLAYING THE STATUS OF THE DECODER

Displays the status of the decoder.

■ Format

http://(IP address of the decoder)/control4?status=get

■ Response

HTTP /1.1 XXXXXXXXXXXXX$^{CR}_{LF}$
Cache-Control: no-cache $^{CR}_{LF}$
Content-Type: text/plain $^{CR}_{LF}$
Content-Length: XX $^{CR}_{LF}$ (Store the octet number of the Message-Body decimally)
$^{CR}_{LF}$
PLAY1:xxx.xxx.xxx.xxx:yyyyy CRLF (Status of CH1)
or
STOP1:xxx.xxx.xxx.xxx:yyyyy CRLF
or
NO_STREAM_DETECT1:xxx.xxx.xxx.xxx:yyyyy
or
STREAM_DOWN1:xxx.xxx.xxx.xxx:yyyyy
or
CHANNEL_SWITCHING_DOWN1:xxx.xxx.xxx.xxx:yyyyy
CRLF
PLAY2:xxx.xxx.xxx.xxx:yyyyy CRLF (Status of CH2)
or
STOP2:xxx.xxx.xxx.xxx:yyyyy CRLF
or
NO_STREAM_DETECT2:xxx.xxx.xxx.xxx:yyyyy
or
STREAM_DOWN2:xxx.xxx.xxx.xxx:yyyyy
or
CHANNEL_SWITCHING_DOWN2:xxx.xxx.xxx.xxx:yyyyy
CRLF
PLAY3:xxx.xxx.xxx.xxx:yyyyy CRLF (Status of CH3)
or
STOP3:xxx.xxx.xxx.xxx:yyyyy CRLF
or
NO_STREAM_DETECT3:xxx.xxx.xxx.xxx:yyyyy
or
STREAM_DOWN3:xxx.xxx.xxx.xxx:yyyyy
or
CHANNEL_SWITCHING_DOWN3:xxx.xxx.xxx.xxx:yyyyy
CRLF

PLAY4:xxx.xxx.xxx.xxx:yyyyy (Status of CH4)
or
STOP4:xxx.xxx.xxx.xxx:yyyyy
or
NO_STREAM_DETECT4:xxx.xxx.xxx.xxx:yyyyy
or
STREAM_DOWN4:xxx.xxx.xxx.xxx:yyyyy
or
CHANNEL_SWITCHING_DOWN4:xxx.xxx.xxx.xxx:yyyyy

xxx.xxx.xxx.xxx: Video stream receiving IP address (xxx：0 - 255)
yyyyy: Port number (yyyyy: 1024 - 65535)
PLAY: Decoder is active, and is receiving video streaming and displaying it on the monitor.
STOP: Decoder is not active.
NO_STREAM_DETECT: Decoder is active, and the receiving video streaming being received has overflowed or the required data is missing.
STREAM_DOWN: Decoder is active and not receiving video streaming.
CHANNEL_SWITCHING_DOWN: Decoder is active, and is switching video streaming to be received and displayed.

■ Examples

To display the status of the encoder
http://192.168.0.11/control4?status=get

1. Response when receiving streaming data from the encoder
   PLAY1:239.192.0.1:50000
   PLAY2:239.192.0.2:50000
   PLAY3:239.192.0.3:50000
   PLAY4:239.192.0.4:50000

2. Response when not receiving streaming data from the encoder
   STREAM_DOWN1:239.192.0.1:50000
   STREAM_DOWN2:239.192.0.2:50000
   STREAM_DOWN3:239.192.0.3:50000
   STREAM_DOWN4:239.192.0.4:50000

CONTROLLING THE BIT RATE OF STREAMING VIDEO AND AUDIO DATA

It is possible to change the bit rate of the encoder. Since the settings of the encoder are not overwritten, the changed rate will return by turning on/off the encoder.

■ Format

http://(IP address of the encoder)/control4?rate=(parameter value)&ch=(parameter value)

■ Response

HTTP /1.1 200 OK $^{CR}_{LF}$
Cache-Control: no-cache $^{CR}_{LF}$
Content-Type: text/plain $^{CR}_{LF}$
Content-Length: XX $^{CR}_{LF}$ (Store the octet number of the Message-Body decimally)
$^{CR}_{LF}$
OK or NG

■ Important Notice

- "rate=(parameter value)&ch=(parameter value)" **(Required)**

■ Item List

Item	Parameter name	Parameter value	Description
Change the bit rate	rate	01=1.5M 02=3.0M 03=3.8M 04=4.6M 05=6.1M (150ms) 06=9.2M (150ms) 07=6.1M (100ms) 08=9.2M (100ms) 00=To the set value reset	Designate the bit rate to be changed.
VIDEO IN connector number	ch	01 - 04	Select one of the VIDEO IN connector of which the bit rate to be changed.

■ Examples

1. To change the bit rate of streaming from the VIDEO OUT 3 connector to 4.6 Mbps
   http://192.168.0.10/control4?rate=04&ch=03
2. To return the bit rate of streaming from the VIDEO OUT 3 connector to the set value
   http://192.168.0.10/control4?rate=00&ch=04

RESETTING THE ALARM / DISPLAYING THE ALARM STATUS

Displays the status of the alarm or resets the alarm against the encoder. The bit rate of the streaming video and audio data returns to the set value by resetting the alarm that sets the status of the alarm to OFF. When two or more alarms occurred, the bit rate of the latest alarm will be applied. The camera preset control will not be performed when resetting.

■ Format

http://(IP address of the encoder)/control4?alm=(parameter value)&ch=(parameter value)

■ Important Notices

- "/control4?alm=(parameter value)&ch=(parameter value)". **(Required)**
- The channel numbers used to display the alarm reset and the alarm status are defined as follows:
  ch0: All alarm port
  ch1: Contact alarm port 1
  ch2: Contact alarm port 2
  ch3: Contact alarm port 3
  ch4: Contact alarm port 4
  ch5: Camera site alarm connected to VIDEO IN 1
  ch6: Camera site alarm connected to VIDEO IN 2
  ch7: Camera site alarm connected to VIDEO IN 3
  ch8: Camera site alarm connected to VIDEO IN 4
  ch9: Video loss alarm connected to VIDEO IN 1
  ch10: Video loss alarm connected to VIDEO IN 2
  ch11: Video loss alarm connected to VIDEO IN 3
  ch12: Video loss alarm connected to VIDEO IN 4

■ Control Item List

● Alarm reset

Item	Parameter name	Parameter value	Description
Reset	alm	reset	Alarm reset
	ch	00	Reset all alarm port
		01 - 12	Reset designated alarm port

● Alarm status display

Item	Parameter name	Parameter value	Description
Status display	alm	state	Alarm status display
	ch	00	To display the status of all alarm ports (fixed)

■ Response

● Response of alarm reset

HTTP /1.1 200 OK $^{CR}_{LF}$
Cache-Control: no-cache $^{CR}_{LF}$
Content-Type: text/plain $^{CR}_{LF}$
Content-Length: XX $^{CR}_{LF}$ (Store the octet number of the Message-Body decimally)
$^{CR}_{LF}$

● Response of displaying alarm status

HTTP /1.1 XXXXXXXXXXXXX $^{CR}_{LF}$
Cache-Control: no-cache $^{CR}_{LF}$
Content-Type: text/plain $^{CR}_{LF}$
Content-Length: XX $^{CR}_{LF}$ (Store the octet number of the Message-Body decimally)
$^{CR}_{LF}$
ALM1:xxx $^{CR}_{LF}$ (Status of the contact input port 1)
ALM2:xxx $^{CR}_{LF}$ (Status of the contact input port 2)
ALM3:xxx $^{CR}_{LF}$ (Status of the contact input port 3)
ALM4:xxx $^{CR}_{LF}$ (Status of the contact input port 4)
ALM5:xxx $^{CR}_{LF}$ (Status of the camera site alarm connected to VIDEO IN 1)
ALM6:xxx $^{CR}_{LF}$ (Status of the camera site alarm connected to VIDEO IN 2)
ALM7:xxx $^{CR}_{LF}$ (Status of the camera site alarm connected to VIDEO IN 3)
ALM8:xxx $^{CR}_{LF}$ (Status of the camera site alarm connected to VIDEO IN 4)
ALM9:xxx $^{CR}_{LF}$ (Status of the video loss alarm connected to VIDEO IN 1)
ALM10:xxx $^{CR}_{LF}$ (Status of the video loss alarm connected to VIDEO IN 2)
ALM11:xxx $^{CR}_{LF}$ (Status of the video loss alarm connected to VIDEO IN 3)
ALM12:xxx $^{CR}_{LF}$ (Status of the video loss alarm connected to VIDEO IN 4)

(xxx : OFF, ALARM)

■ Examples

1. To reset the alarm occurred at the contact input port 1
   http://192.168.0.10/control4?alm=reset&ch=01
2. To reset the video loss alarm occurred at the VIDEO IN 3
   http://192.168.0.10/control4?alm=reset&ch=11
3. To display the alarm status
   http://192.168.0.10/control4?alm=state&ch=00

DISPLAYING THE CONTACT INPUT STATUS

Displays the status of each contact input port.

■ Format

http://(IP address of the encoder)/control4?dio=status

■ Response

HTTP /1.1 200 OK CR LF
Cache-Control: no-cache CR LF
Content-Type: text/plain CR LF
Content-Length: XX CR LF (Store the octet number of the Message-Body decimally)
CR LF
DI1 : xxx CR LF (Status of the contact input port 1)
DI2 : xxx CR LF (Status of the contact input port 2)
DI3 : xxx CR LF (Status of the contact input port 3)
DI4 : xxx CR LF (Status of the contact input port 4)

(xxx : High or Low)

DISPLAYING THE STATUS OF VIDEO LOSS

Displays the receiving status of the video sync signals from camera or the VTR connected to the VIDEO IN connector of the encoder. When the power of the camera connected with the video cable is off, the status will be OFF.

■ Format

http://(IP address of the encoder)/control4?video=in

■ Response

HTTP /1.1 200 OK $^{CR}_{LF}$

Cache-Control: no-cache $^{CR}_{LF}$

Content-Type: text/plain $^{CR}_{LF}$

Content-Length: XX $^{CR}_{LF}$ (Store the octet number of the Message-Body decimally)

$^{CR}_{LF}$

VI1 : xxx $^{CR}_{LF}$ (Status of VIDEO IN 1)

VI2 : xxx $^{CR}_{LF}$ (Status of VIDEO IN 2)

VI3 : xxx $^{CR}_{LF}$ (Status of VIDEO IN 3)

VI4 : xxx $^{CR}_{LF}$ (Status of VIDEO IN 4)

(xxx : IN or OUT)

MUTING THE AUDIO

It is possible to mute audio temporarily, or resume muted audio.

■ Format

http://(IP address of the decoder)/control4?audio=out&ch=(parameter value)&mute=(parameter value)

■ Response

HTTP /1.1 200 OK $^{CR}_{LF}$
Cache-Control: no-cache $^{CR}_{LF}$
Content-Type: text/plain $^{CR}_{LF}$
Content-Length: XX $^{CR}_{LF}$ (XX: Display the octet number of the Message-Body decimally)
$^{CR}_{LF}$
OK or NG

■ Important Notice

- "audio=out&ch=(parameter value)&mute=(parameter value)" **(Required)**

■ Item List

Item	Parameter name	Parameter value	Description
Audio mute	audio	out	Identifier to mute audio
AUDIO OUT connector number	ch	01 - 04	Select a AUDIO OUT connector number
Audio mute control	mute	on, off	on: Stop audio output off: Audio output

■ Examples

1. To resume the muted audio output from the AUDIO OUT 1
   http://192.168.0.11/control4?audio=out&ch=01&mute=on
2. To mute audio from the AUDIO OUT 1 connector (mute)
   http://192.168.0.11/control4?audio=out&ch=01&mute=off

MULTISCREEN DISPLAY

Designates image to be displayed on the monitor connected to the QUAD connector by the CGI commands. It is possible to select whether to display in multiscreen (quad) or to display one of the 4 image sources.

■ Format

http://(IP address of the decoder)/control4?video=out&ch=(parameter value)

■ Response

HTTP /1.1 200 OK $^{CR}_{LF}$
Cache-Control: no-cache $^{CR}_{LF}$
Content-Type: text/plain $^{CR}_{LF}$
Content-Length: XX $^{CR}_{LF}$ (XX: Display the octet number of the Message-Body decimally)
$^{CR}_{LF}$
OK or NG

■ Important Notice

- "video=out & ch=(parameter value)" **(Required)**

■ Control Item List

Item	Parameter name	Parameter value	Description
Multiscreen	video	out	Identifier to display multichannel
VIDEO OUT channel	ch	01 - 05	Select one of the VIDEO OUT channel numbers, or select 05 to display 4 images in a multiscreen (QUAD).

■ Examples

1. To display the images in a multiscreen
   http://192.168.0.11/control4?video=out&ch=05
2. To display the image from VIDEO OUT channel 1
   http://192.168.0.11/control4?video=out&ch=01

CONTROLLING THE CONTACT OUTPUT

It is possible to designate the output port, output type (open/close), and output time of the control pulse which is supplied from the contact output port of the encoder.

■ Format

http://(IP address of the encoder)/cgi-bin/pioctrl.cgi?com=set_pio&PIO=(parameter value)&OUT=(parameter value)&TYPE=(parameter value)&TIME=(parameter value)&submit=ACTION

■ Response

HTTP /1.1 200 OK $^{CR}_{LF}$
Cache-Control: no-cache $^{CR}_{LF}$
Content-Type: text/plain $^{CR}_{LF}$
Content-Length: XX $^{CR}_{LF}$ (XX: Display the octet number of the Message-Body decimally)
$^{CR}_{LF}$

■ Important Notice

- The output time will be invalid when "momentary" is selected for the output mode.

■ Item List

Item	Parameter name	Parameter value	Description
Output port	PIO	1 - 4	Designate the output port
Output mode	OUT	latch	Supply the pulse from the output port during designated output time
		momentary	Trigger output will be supplied for around 300 seconds
Output type	TYPE	open, close	Designate the output type
Output time	TIME	1 - 1 800	Designate the output time (unit x 100 ms) Valid only when "latch" is selected for the output mode.
		0	Retain the designated status

■ Examples

1. Close output for 1 second for the port 1
   http://192.168.0.10/cgi-bin/pioctrl.cgi?com=set_pio&PIO=1&OUT=latch&TYPE=close
   &TIME=10&submit=ACTION

2. Open output for 15 seconds for the port 2
   http://192.168.0.10/cgi-bin/pioctrl.cgi?com=set_pio&PIO=2&OUT=latch&TYPE=open
   &TIME=150&submit=ACTION

3. Trigger close output for the port 3
   http://192.168.0.10/cgi-bin/pioctrl.cgi?com=set_pio&PIO=3&OUT=momentary&TYPE=close
   &submit=ACTION

4. Trigger open output for the port 4
   http://192.168.0.10/cgi-bin/pioctrl.cgi?com=set_pio&PIO=4&OUT=momentary&TYPE=open
   &submit=ACTION

5. Open output for the port 1 and retain the current status
   http://192.168.0.10/cgi-bin/pioctrl.cgi?com=set_pio&PIO=1&OUT=latch&TYPE=open
   &TIME=0&submit=ACTION

RESTARTING THE ENCODER / DECODER

It is possible to restart the encoder/decoder using the CGI commands.

■ Format

● Restarting the encoder

```
http://(IP address of the encoder)/cgi-bin/encoder.cgi?com=netvup&submit=RESTART
```

● Restarting the decoder

```
http://(IP address of the decoder)/cgi-bin/decoder.cgi?com=netvup&submit=RESTART
```

■ Response

```
HTTP /1.1 200 OK CR LF
Cache-Control: no-cache CR LF
Content-Type: text/plain CR LF
Content-Length: XX CR LF                    (XX: Display the octet number of the Message-Body decimally)
CR LF
```

■ Important Notice

The user name and the password authentication will be required when trying to restart the encoder/decoder. Enter a user name with access level 1 (ADMINISTRATOR) and the password registered to the encoder/decoder to be restarted.

■ Example

- Restarting the decoder
  http://192.168.0.11/cgi-bin/decoder.cgi?com=netvup&submit=RESTART

UPDATING

Update the firmware of the encoder/decoder by executing the update file transferred to the encoder/decoder in advance. Refer to the page 62 or page 79 to transfer the file to the encoder or the decoder respectively.

■ Format

● Updating the encoder

```
http://(IP address of the encoder)/cgi-bin/encoder.cgi?com=netvup&submit=START
```

● Updating the decoder

```
http://(IP address of the decoder)/cgi-bin/decoder.cgi?com=netvup&submit=START
```

■ Response

HTTP /1.1 200 OK CR LF
Cache-Control: no-cache CR LF
Content-Type: text/plain CR LF
Content-Length: XX CR LF (XX: Display the octet number of the Message-Body decimally)
CR LF

■ Important Notice

The user name and the password authentication will be required when trying to update the firmware of the encoder/decoder. Enter a user name with access level 1 (ADMINISTRATOR) and the password registered to the encoder/decoder to be updated.

DEFAULT SETTINGS

ENCODER

Setting Page	Item	Default setting
NETWORK	IP ADDRESS	192.168.0.10
	SUBNET MASK	255.255.255.0
	DEFAULT GATEWAY	192.168.0.1
	DNS SERVER	0.0.0.0
	SPEED/DUPLEX	AUTO
SYSTEM	MODE	WEB MODE
	VIDEO&AUDIO ENCRYPTION	OFF
	ENCRYPTION KEY (4 digits: 0 - 9)	0000
	NTP	OFF
	NTP SERVER HOST/IP ADDRESS	-
	INTERVAL	24
	TIME ZONE	(GMT-05:00) Eastern Standard Time
	DAYLIGHT SAVINGS	ON
	DATE [YYYY/MM/DD]	2003/01/01
	DATE [hh:mm:ss]	00:00:00
	DEVICE NAME	WJ-GXE900
	LOCATION	-
	CONTACT	-
	SNMP COMMUNITY	public
	START UP COMMAND*	MULTICAST
	DESTINATION IP ADDRESS*	239.192.255.1
	MULTICAST IP ADDRESS FOR SETUP*	239.192.255.2
	MULTICAST PORT*	51203

		CH1	CH2	CH3	CH4
VIDEO	CAMERA No.	1	2	3	4
	CAMERA TITLE (WITHIN 16 CHARACTERS)	1	2	3	4
	DESTINATION IP ADDRESS	239.192.0.1	239.192.0.2	239.192.0.3	239.192.0.4
	DESTINATION PORT No.	50000	50000	50000	50000
	SOURCE PORT No.	51000	51000	51000	51000
	BIT RATE	6.14 Mbps (150 ms)	6.14 Mbps (150 ms)	6.14 Mbps (150 ms)	6.14 Mbps (150 ms)
	TOS BIT	0	0	0	0
	TTL	16	16	16	16
	ENCODER START UP SETUP	START	START	START	START
	CAMERA CABLE COMPENSATION	S	S	S	S
	DYNAMIC RANGE	NORMAL	NORMAL	NORMAL	NORMAL
	WATERMARK	OFF	OFF	OFF	OFF
	GOP	15	15	15	15

*: Valid only when "MAIN CPU MODE (MAIN CPU EXISTS)" is selected for "MODE" on the SYSTEM page of the encoder.

Setting Page	Item	Default setting			
AUDIO	SETUP	OFF	OFF	OFF	OFF
ALARM-DRY CONTACT		No.1	No. 2	No.3	No.4
	MAKE-CONTACT	CLOSE	CLOSE	CLOSE	CLOSE
	CAMERA PRESET No. (1 - 64)	Blank for all the camera input channels (No preset control)			
	BIT RATE	Refer to "The bit rate when the encoder detects an alarm (both the dry contact and camera site alarm)" on the next page.			
	RESET/TIMER (SEC) 1 - 60, 90, 120, 150, 180, 240, 300 - 3600: 60SEC INTERVAL	TIMER 10 sec	TIMER 10 sec	TIMER 10 sec	TIMER 10 sec
ALARM-CAMERA SITE		No.1	No. 2	No.3	No.4
	ON/OFF	ON	ON	ON	ON
	CAMERA PRESET No. (1 - 64)	Blank for all the camera input channels (No preset control)			
	BIT RATE	Refer to "The bit rate when the encoder detects an alarm (both the dry contact and camera site alarm)" on the next page.			
	RESET/TIMER (SEC) 2 - 60, 90, 120, 150, 180, 240, 300 - 3600: 60SEC INTERVAL	TIMER 10 sec	TIMER 10 sec	TIMER 10 sec	TIMER 10 sec
ALARM-VIDEO LOSS		No.1	No. 2	No.3	No.4
	ON/OFF	ON	ON	ON	ON
	CAMERA PRESET No. (1 - 64)	Blank for all the camera input channels (No preset control)			
	BIT RATE	"NO CHANGE" for all the camea input channels.			
	RESET/TIMER (SEC) 1 - 60, 90, 120, 150, 180, 240, 300 - 3600: 60SEC INTERVAL	TIMER 10 sec	TIMER 10 sec	TIMER 10 sec	TIMER 10 sec
ALARM	ALARM NOTIFICATION ADDRESS	0.0.0.0			
	ALARM NOTIFICATION PORT	51456			
RS-485 DATA PORT	BAUD RATE	9 600 bps			
	DATA	8 BIT			
	STOP BIT	1 BIT			
	PARITY	NONE			
	WAITING DATA SIZE TO SEND PACKET (1 - 1024) byte	200			
	WAITING TIMER TO SEND PACKET (10 - 1000ms)	100			
	DESTINATION SETUP	DESTINATION IP ADDRESS IN RECEIVING PACKET			
	DESTINATION IP ADDRESS	0.0.0.0			
	DESTINATION PORT No.	0			
	RECEIVING PORT No.	52000			
USER	USER AUTHENTICATION	OFF			
	USER NAME	admin			
	PASSWORD	-			
	ACCESS LEVEL	1			
	DELETE	admin [1]			

Setting Page	Item	Default setting
HOST	HOST AUTHENTICATION	OFF
	HOST IP ADDRESS	-
	SUBNET MASK	-
	ACCESS LEVEL	-
	DELETE	-
MAINTENANCE	ACCEPT EXCLUSIVE COMMAND IP ADDRESS	-

The bit rate when the encoder detects an alarm (both the dry contact and camera site alarm)

No.	Camera input channel	Default setting
1	1	9.216 Mbps (150 ms)
	2	NO CHANGE
	3	NO CHANGE
	4	NO CHANGE
2	1	NO CHANGE
	2	9.216 Mbps (150 ms)
	3	NO CHANGE
	4	NO CHANGE
3	1	NO CHANGE
	2	NO CHANGE
	3	9.216 Mbps (150 ms)
	4	NO CHANGE
4	1	NO CHANGE
	2	NO CHANGE
	3	NO CHANGE
	4	9.216 Mbps (150 ms)

DECODER

Setting Page	Item	Default setting
NETWORK	IP ADDRESS	192.168.0.11
	SUBNET MASK	255.255.255.0
	DEFAULT GATEWAY	192.168.0.1
	DNS SERVER	0.0.0.0
	SPEED/DUPLEX	AUTO
SYSTEM	MODE	WEB MODE
	VIDEO&AUDIO DECRYPTION	OFF
	DECRYPTION KEY (4 digits: 0 - 9)	0000
	NTP	OFF
	NTP SERVER HOST/IP ADDRESS	-
	INTERVAL	24
	TIME ZONE	(GMT-05:00) Eastern Standard Time
	DAYLIGHT SAVINGS	ON
	DATE [YYYY/MM/DD]	2003/01/01
	DATE [hh:mm:ss]	00:00:00
	DEVICE NAME	WJ-GXD900
	LOCATION	-
	CONTACT	-
	SNMP COMMUNITY	public
	START UP COMMAND*	MULTICAST
	DESTINATION IP ADDRESS*	239.192.255.1
	MULTICAST IP ADDRESS FOR SETUP*	239.192.255.2
	MULTICAST PORT*	51203

		CH1	CH2	CH3	CH4
VIDEO	UNICAST/MULTICAST	MULTICAST	MULTICAST	MULTICAST	MULTICAST
	RECEIVING IP ADDRESS	239.192.0.1	239.192.0.2	239.192.0.3	239.192.0.4
	RECEIVING PORT No.	50000	50000	50000	50000
	LATENCY BUFFER	NONE	NONE	NONE	NONE
	DECODER START UP SETUP	START	START	START	START
DISPLAY	CAMERA No. DISPLAY	ON	ON	ON	ON
	CAMERA TITLE DISPLAY	ON	ON	ON	ON
	DATE DISPLAY	ON	ON	ON	ON
	DISPLAY POSITION	TYPE A	TYPE A	TYPE A	TYPE A
	CHARACTER SIZE	BIG	BIG	BIG	BIG
	CHARACTOR BACKGROUND COLOR	NONE	NONE	NONE	NONE
	DATE DISPLAY	MMM.DD.YY hh:mm:ss			
	TIME DISPLAY	12 HOUR			
USER	USER AUTHENTICATION	OFF			
	USER NAME	admin			
	PASSWORD	-			
	ACCESS LEVEL	1			
	DELETE	admin[1]			
HOST	HOST AUTHENTICATION	OFF			
	HOST IP ADDRESS	-			
	SUBNET MASK	-			
	ACCESS LEVEL	-			
	DELETE	-			

*: Valid only when "MAIN CPU MODE (MAIN CPU EXISTS)" is selected for "MODE" on the SYSTEM page of the decoder.

SPECIFICATIONS

●ENCODER

Basic Specification	
Power Source	120 V AC 60 Hz
Power Consumption	23 W
Ambient Operating Temperature	–10 °C - +50 °C (14 °F - 122 °F)
Ambient Operating Humidity	Less than 90% (non-condensing)
Weight	Approx. 2.9 kg (6.4 lbs.)
Dimensions	210 mm (W) x 44 mm (H) x 300 mm (D) [8-1/4" (W) x 1-3/4" (H) x 11-13/16" (D)] (Rubber feet excluded)
Input/Output	
Video Input	1.0 V[p-p]/75 Ω (Multiplex control signal), NTSC Composite, BNC (x4)
Video Output	1.0 V[p-p]/75 Ω, NTSC Composite D-sub 9pin (x4)
Audio Input	–10 dBv, more than 10 kΩ, Unbalanced, D-sub 9pin (x4)
Video Compression Method	MPEG2-TS, SP@ML
Audio Compression Method	Dolby Digital®
Resolutions	720 x 480 pixels max. (Effective pixels: 704 x 480)
Frame Rate	30 fps
Bit Rate	1.5 Mbps, 3.0 Mbps, 3.8 Mbps, 4.6 Mbps, 6.1 Mbps, 9.2 Mbps
Serial Port	RS-485, four-wire system, RJ-11, Termination resistor ON/OFF switch, 4 800 bps, 9 600 bps, 19 200 bps
Alarm Input	Dry contact, Terminal (x4)
Trigger Output	Open Collector output, Terminal (x4)
Reset Input	Current loop or dry contact, Terminal (x1)
Network Interface	
Network Interface	100BASE-TX, RJ-45
Compatible Network Protocols	IP, ICMP, IGMP v2, BOOTP, TCP, UDP, HTTP, RTP, SNMP, NTP, FTP, DHCP
Security measures	Password authentication, Encryption of video and audio data (Hardware)

Standard Accessories

- Simple Mounting Bracket for a Container Box 4
- Fixing Screw for Simple Mounting Bracket (M3x6) 8
- Code Label (on which the MAC address is written) 1
- Description Label 1.....1
- Description Label 2.....1
- CD-ROM.....1
- Quick Reference Guide.....1
- Warranty.....1

●DECODER

Basic Specification	
Power Source	120 V AC 60 Hz
Power Consumption	45 W
Ambient Operating Temperature	–10 °C - +50 °C (14 °F - 122 °F)
Ambient Operating Humidity	Less than 90 % (no-condensing)
Weight	Approx. 4.8 kg (10.6 lbs.)
Dimensions	420 mm (W) x 44 mm (H) x 350 mm (D) [16-9/16" (W) x 1-3/4" (H) x 13-3/4" (D)] (Rubber feet excluded)
Input/Output	
Video Output	1.0 V[p-p]/75 Ω, NTSC Composite BNC (x4)
Quad	1.0 V[p-p]/75 Ω, NTSC Composite, BNC (x1)
Audio Output	–10 dBv, 10 kΩ, Unbalanced, RCA (x4)
Audio Mixing output	–10 dBv, 10 kΩ, Unbalanced, RCA (x1)
Video Compression Method	MPEG2-TS, SP@ML
Audio Compression Method	Dolby Digital®
Resolutions	720 x 480 pixels max. (Effective pixels: 704 x 480)
Frame Rate	30 fps
Bit Rate	1.5 Mbps, 3.0 Mbps, 3.8 Mbps, 4.6 Mbps, 6.1 Mbps, 9.2 Mbps
Serial Port	RS-232C, D-sub 9pin, Only for maintenance
Reset Input	Current loop or dry contact, Terminal (x1)
Network Interface	
Network Interface	100BASE-TX, 1000BASE-T, RJ-45
Compatible Network Protocols	IP, ICMP, IGMP v2, BOOTP, TCP, UDP, HTTP, RTP, SNMP, NTP, FTP, DHCP
Security measures	Password authentication, Decryption of video data/audio mixing (Hardware)

Standard Accessories

- Rack Mounting Bracket 2
- Fixing Screws for Rack Mounting Bracket (M5x12) 4
- Mounting Screws (M3x8).....6
- Code Label (on which the MAC address is written) 1
- Description Label.....1
- CD-ROM.....1
- Quick Reference Guide 1
- Warranty.....1

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